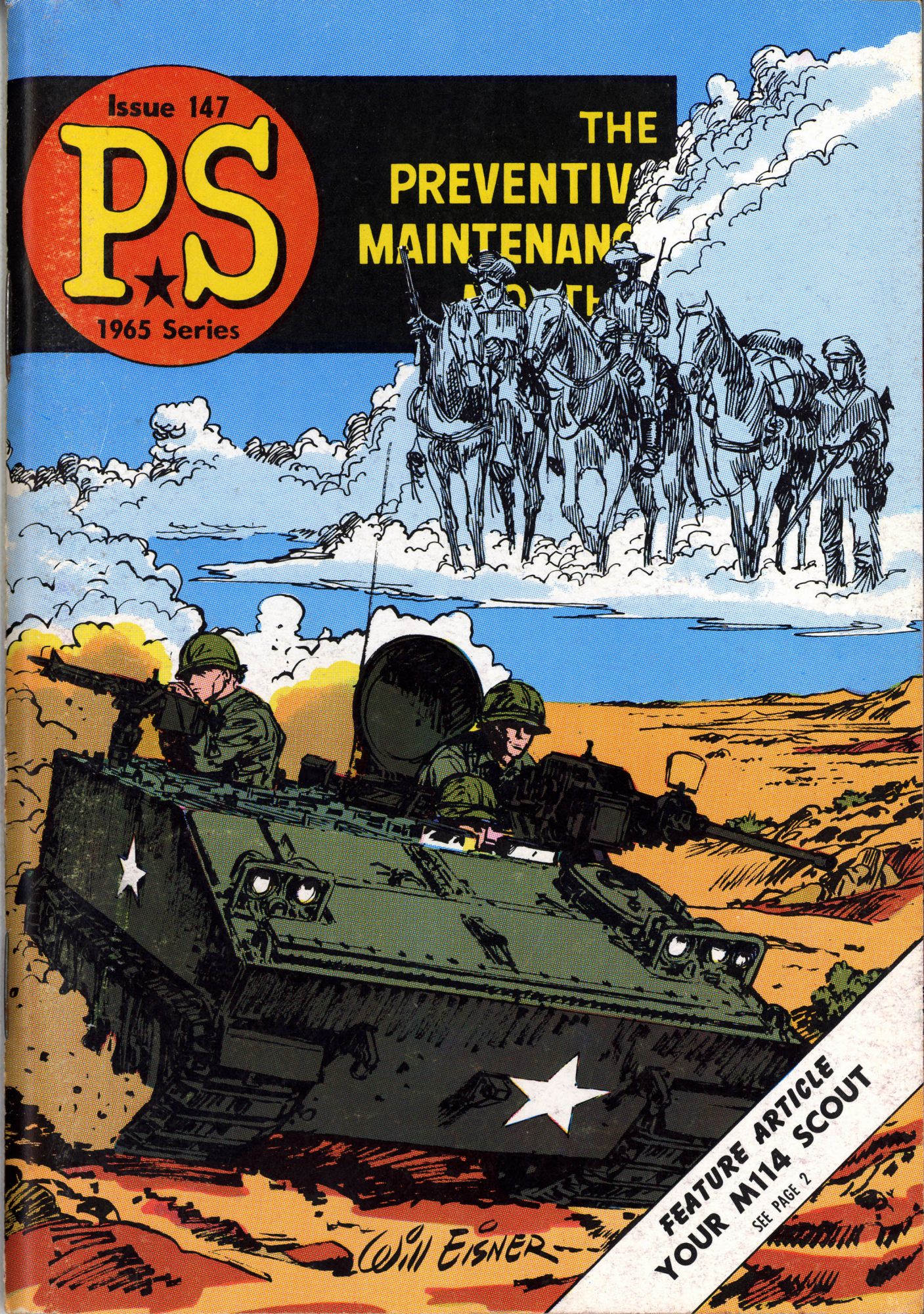
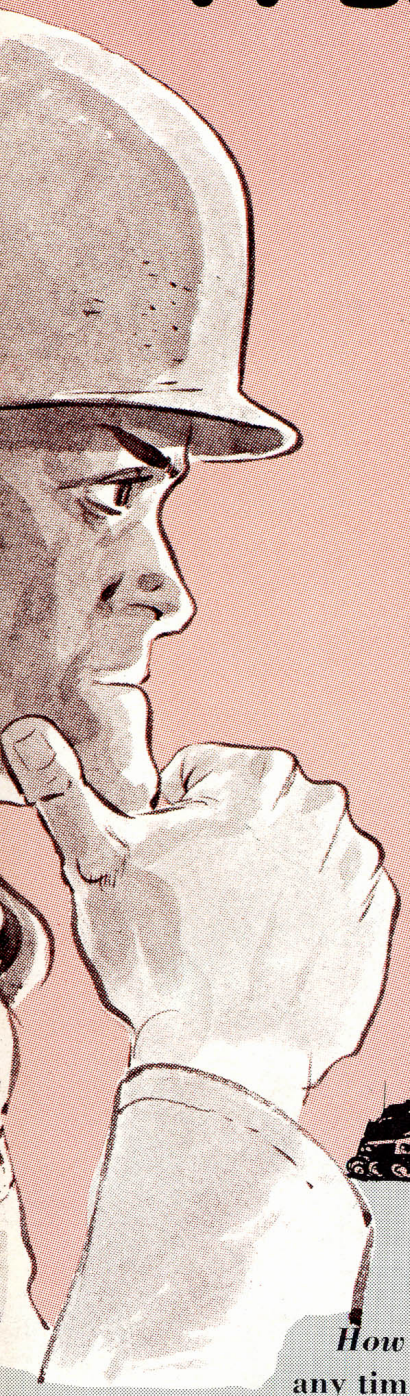

Issue 147
PS
1965 Series
THE
PREVENTIV
MAINTENAN
Will Eisner
FEATURE ARTICLE
YOUR M114 SCOUT
SEE PAGE 2

WHO? ...performs those ESC checks?



With all the new ESC TM's rolling out to the field, more guys are asking questions like—

Who does this ESC bit?

How often?

Who? The who is you, the man who operates or uses a piece of equipment. If you're a truck driver, you pull the ESC checks on your own truck. If you're on a tank, artillery or missile crew, you do it (each man ought to have specific checks to make). Radio or radar operator? . . . Yes.

Now, if you're new to ESC, you might get help from your unit mechanic or technical specialist. Of course, your squad or section leader keeps an eye on how you're doing and lends a hand when you need it. In fact, it's a lot like "motor stables" some outfits have for daily maintenance.

How often? You do some checks any time you're working on or operating your equipment, tho you may not write down the score. But you do report to your sergeant anything that would change the Green-Amber-Red status of your gear.

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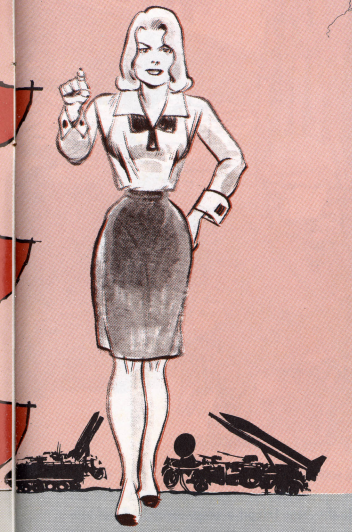
Then, when it comes time for the official ESC check you're ready to go. You already know your equipment real well. You go over each Equipment Serviceability Criteria checkpoint with great care; operate your gear as the ESC requires. You get some info from the log book. And you've got the score.

The ESC is designed to tell you how Combat Ready your equipment is. Help it to tell the truth.

YOU!



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Issue No. 147 1965 Series

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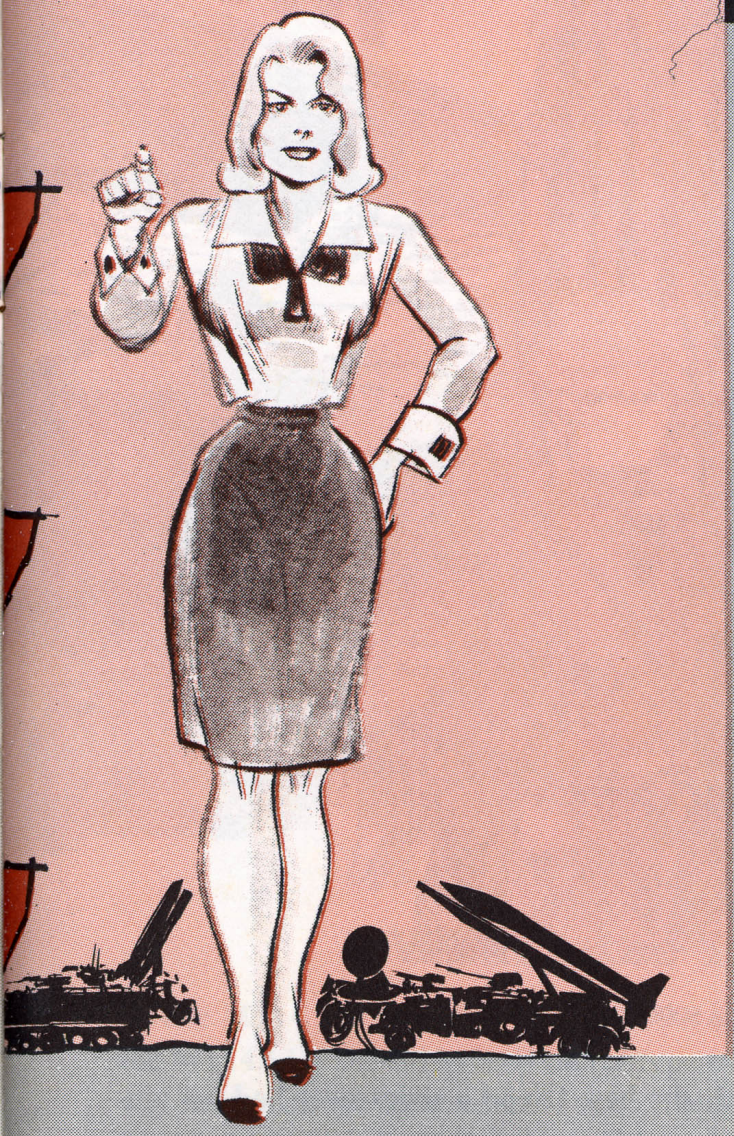

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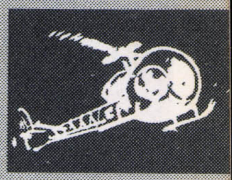

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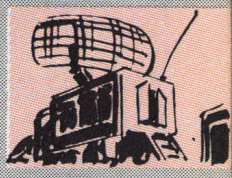

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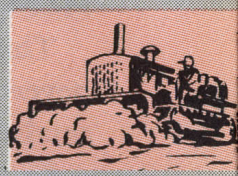

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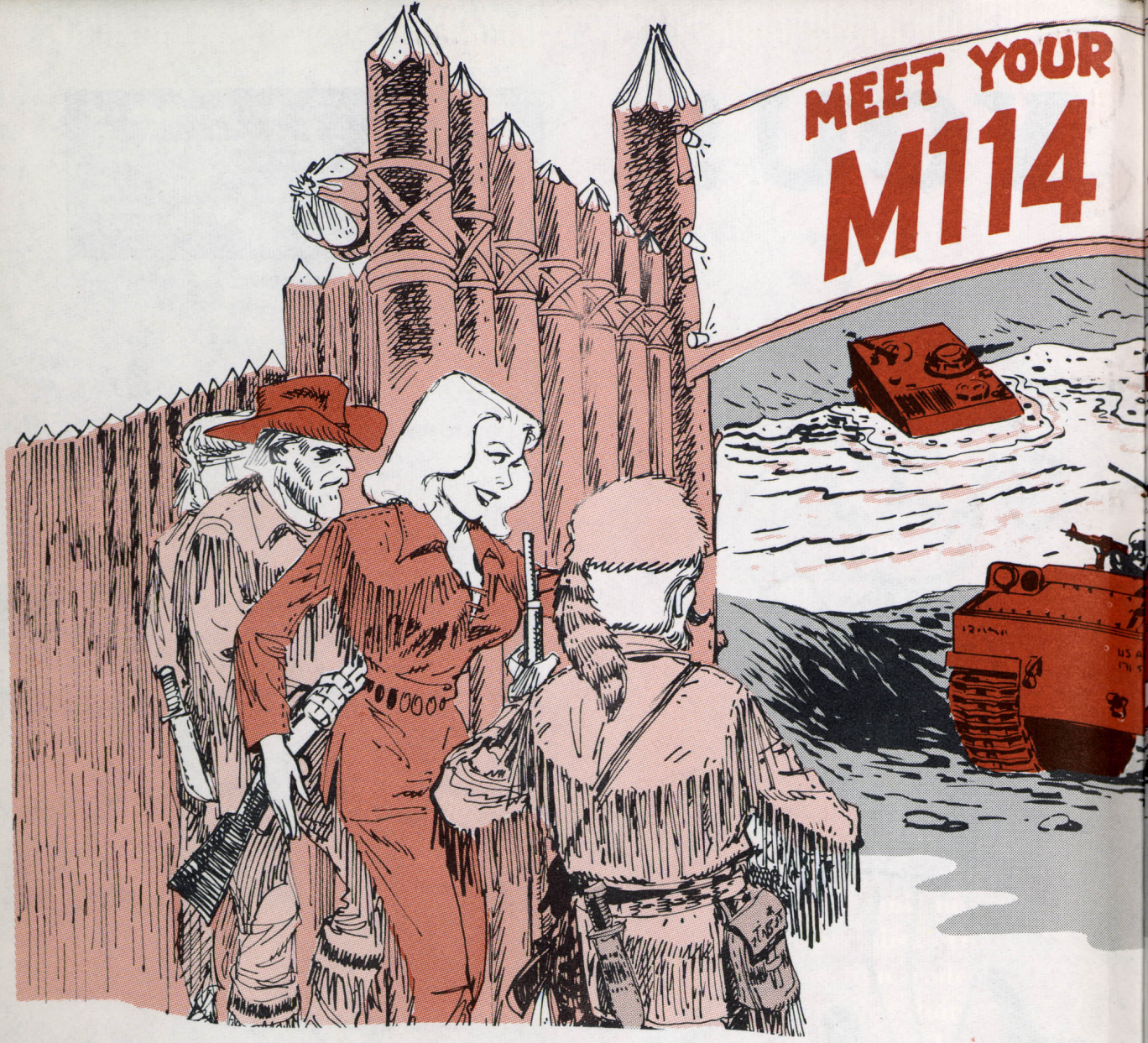

So you're a rootin', tootin', shootin', scootin', scout!

Well, bully for you!

Now let's make you acquainted with the best friend a scout ever had . . . an M114 or M114A1 Armored Command and Reconnaissance Carrier.

This scout-scooter can take a three-man-crew places that a scout jeep could never climb or swim, and it gives that valuable hide of yours protection from small arms fire.

So you think this is too good to be true?

It is true—all you have to do is spend a little time maintaining this all-terrain buggy and you'll get the full advantage of its mobility, protection and punch.

First off, you're going to find some things are a little different with this track package. Like, when you come to some water you don't worry about how deep it is or if there's a bridge handy. You just swim your Scout-Scooter across like it was born a boat.

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What's the Difference?

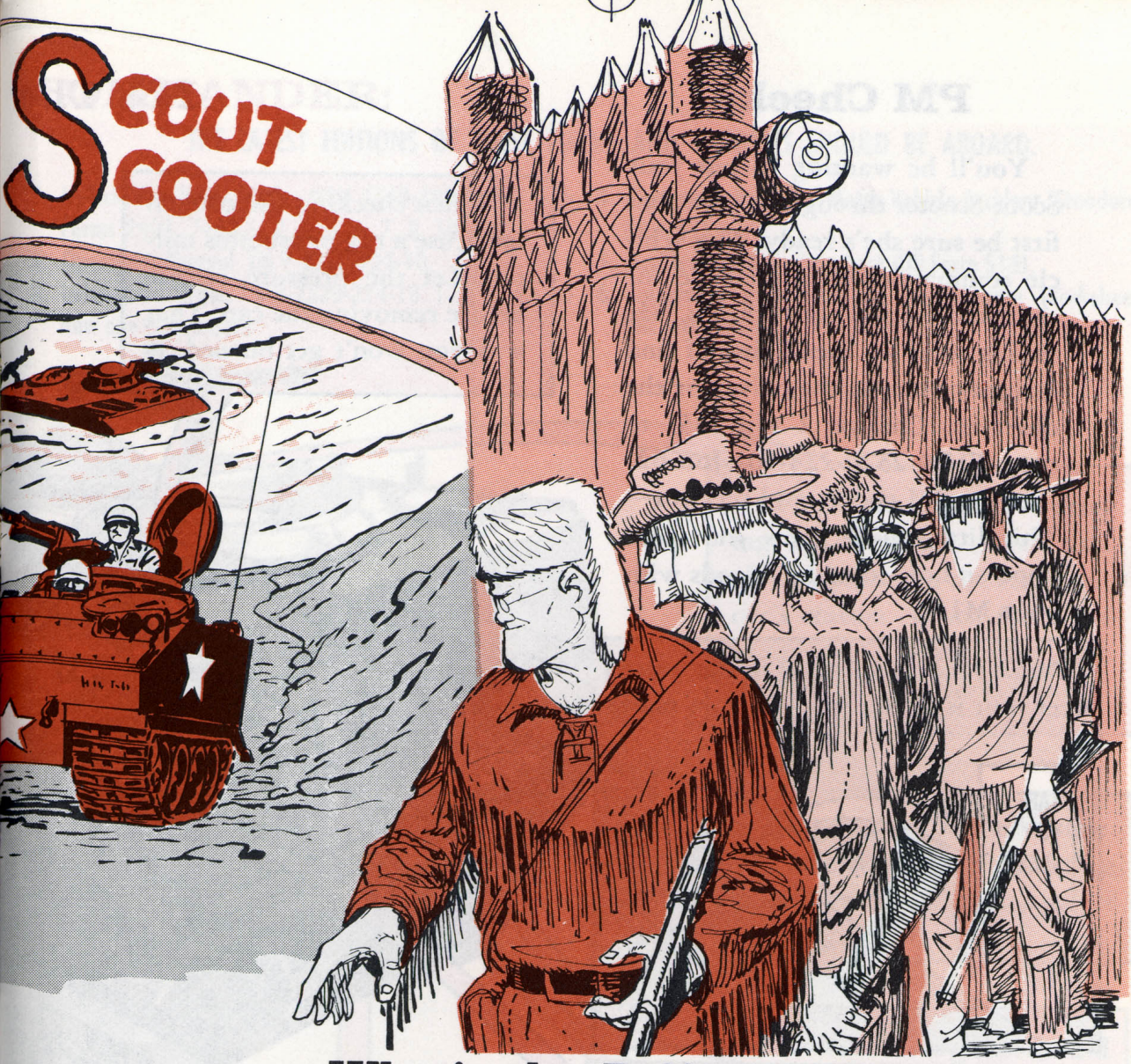
The M114 and the M114A1 are alike except for the commander's station. On the M114A1 a .50-cal M2HB turret-type machine gun can be elevated, traversed, and fired with the commander's station hatch cover either open or closed. On the M114 the M2HB flex-type machine gun is pintle-mounted and can only be fired with the hatch open.

M116 Cargo Carrier

If you have an M116 Cargo Carrier, a lot of the dope on the M114 series will apply because they both have the same engine, transmission, geared steer, and idler wheel hubs.

But there's also a lot of difference between the M116 and the M114. So, before interchanging a part check both vehicle TM's.

DA PAM 750-8 MORE



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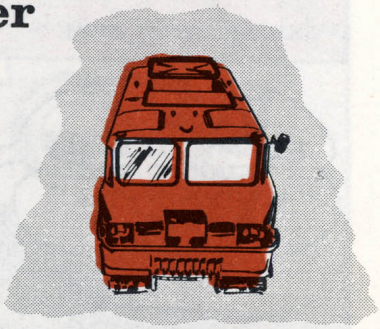

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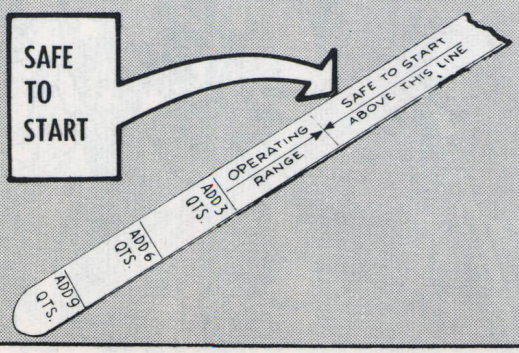
PS MORE

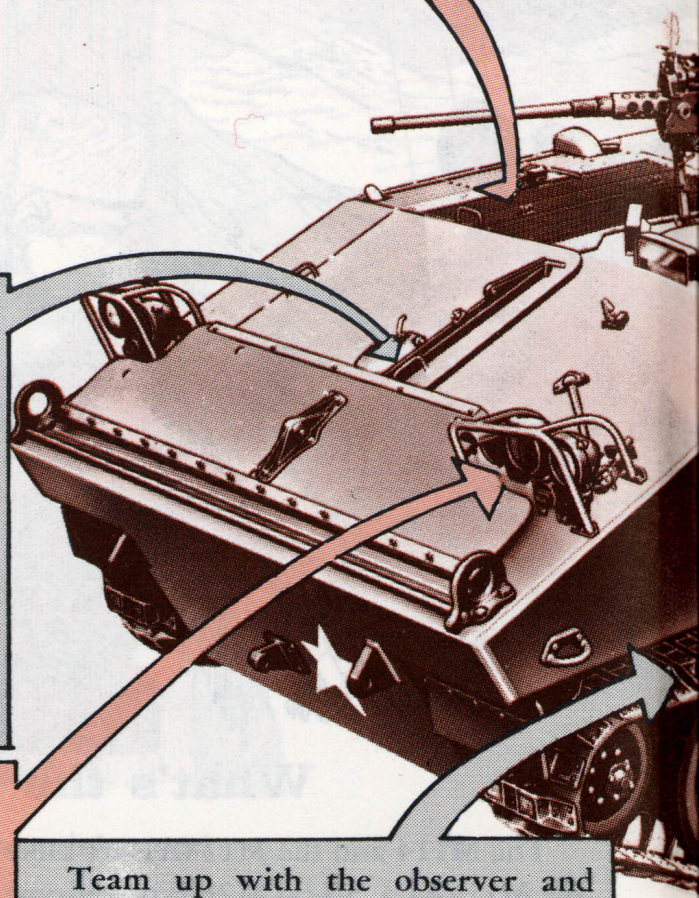
PM Checks

You'll be wanting to put your Scout-Scooter through its paces but first be sure she's ready. The vehicle commander is responsible for the before-operations checks. He makes some of them himself and assigns others to the driver or the observer. Change 2 (Jul 63) to your TM 9-2320-224-10 (Jun 62) lists the PM checks and services— This little guide gives you more dope on how to make friends with your M114.

When checking the coolant level, use a rag or asbestos mitten. Let the pressure release before removing the cap. That way you won't get burned.

Make sure the oil level in the geared steer unit is at the Safe-To-Start mark.





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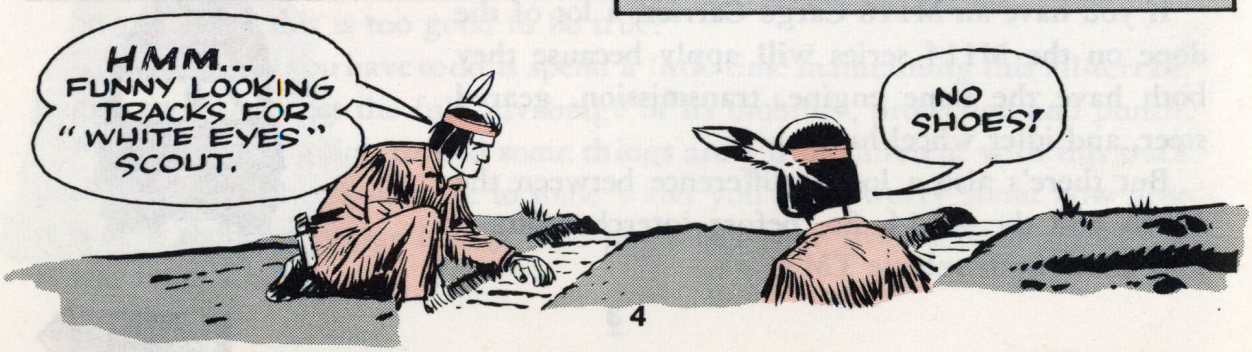
Team up with the observer and check tension on both tracks. A correctly adjusted track almost never throws and it's your insurance against track misguiding and road wheel rubber chunking.



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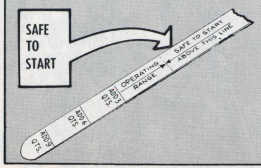

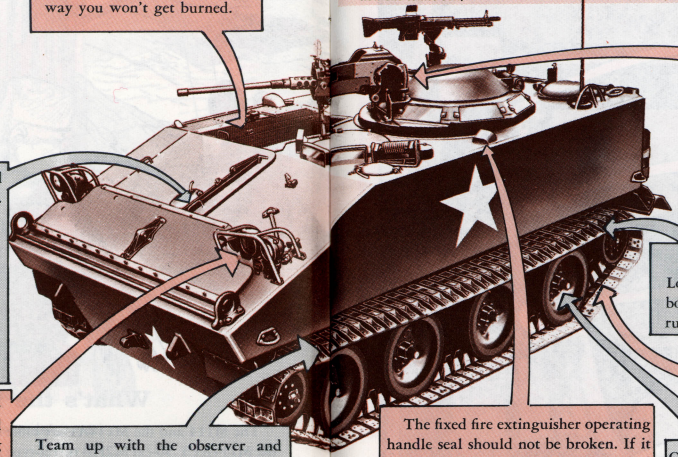

While the engine's warming up, check the .50-cal and all equipment in the commander's station. When the oil is at operating temperature give the geared steer its hot check.

Look over both sides of the vehicle. Look for broken track cables, missing bolts and excessive idler and road wheel rubber chunking.

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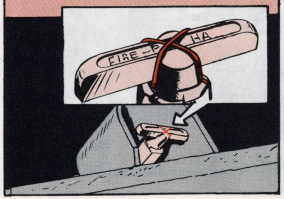
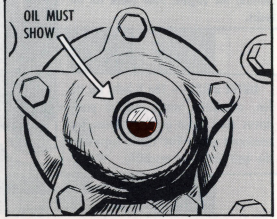


Oil must show in all hub level gages.



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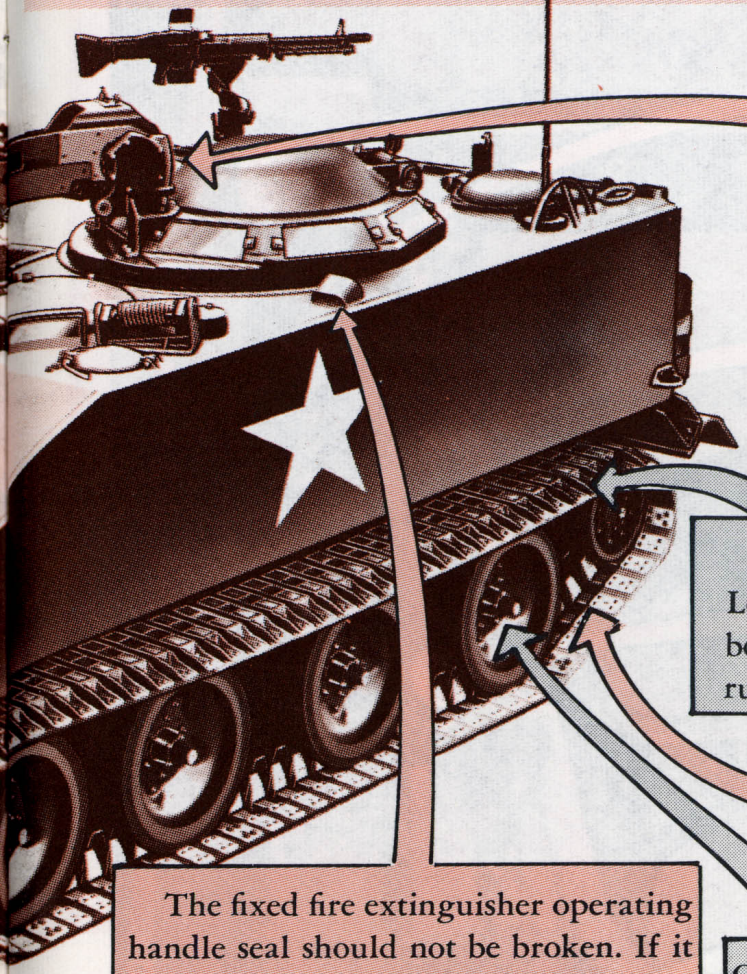

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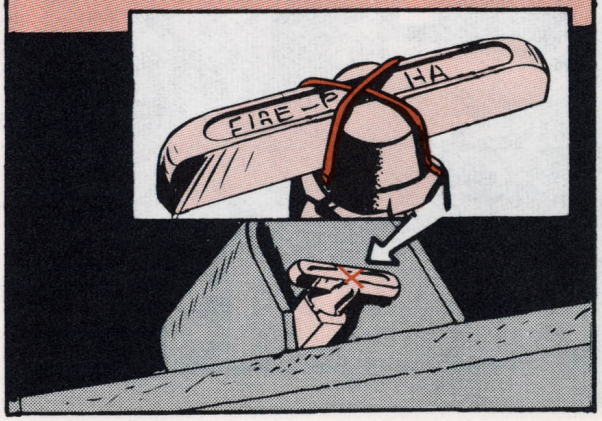

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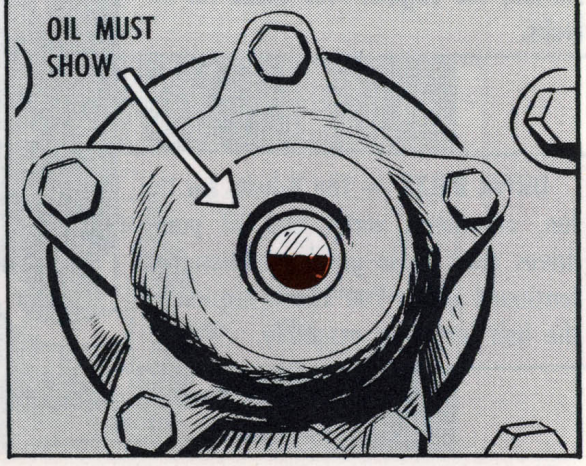
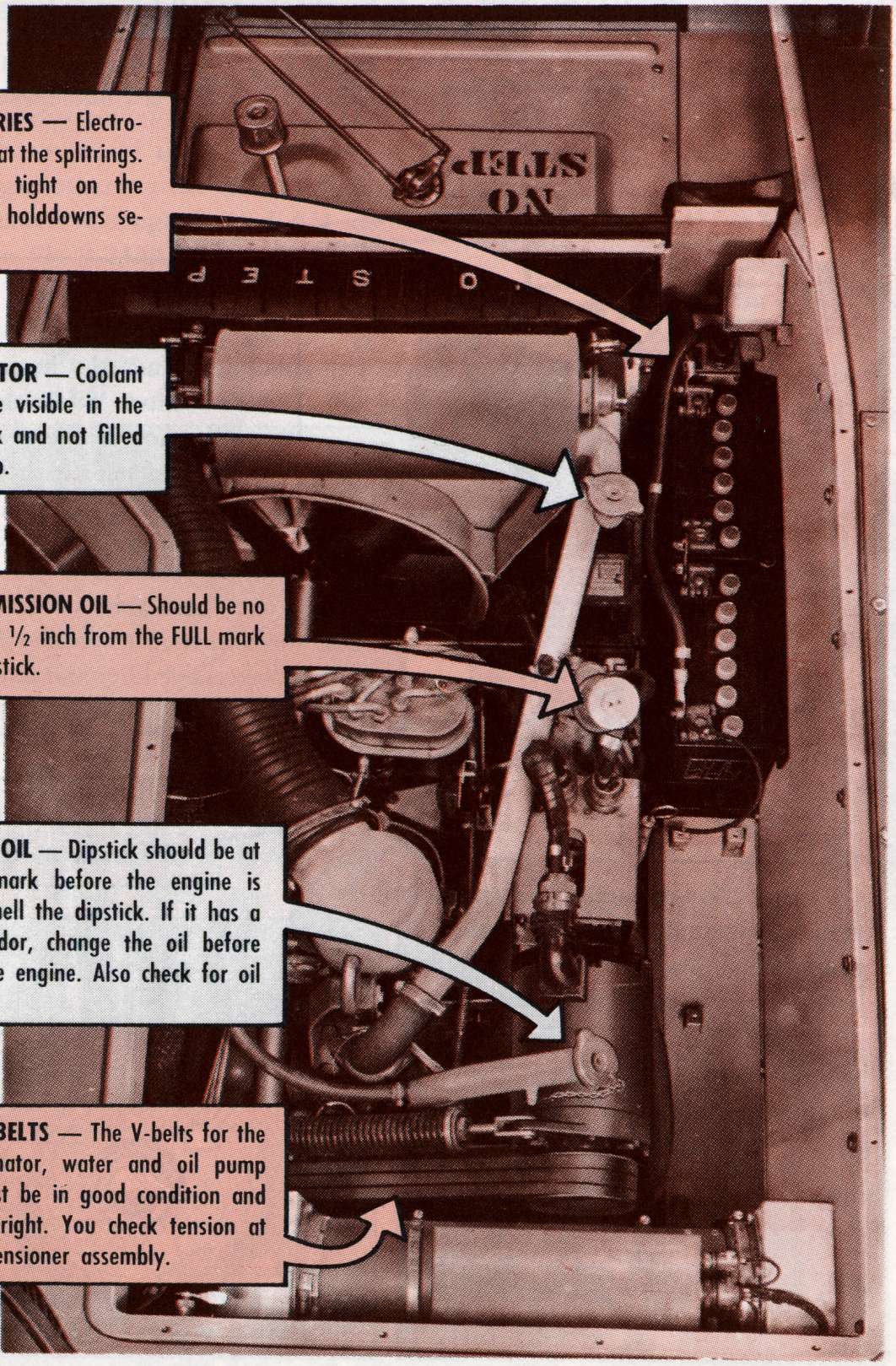


PS MORE

For the DRIVER:

MAKE THESE CHECKS BEFORE STARTING THE ENGINE.



BATTERIES — Electrolyte level at the splitrings. Terminals tight on the post and holddowns secure.

RADIATOR — Coolant should be visible in the filler neck and not filled to the top.

TRANSMISSION OIL — Should be no lower than 1/2 inch from the FULL mark on the dipstick.

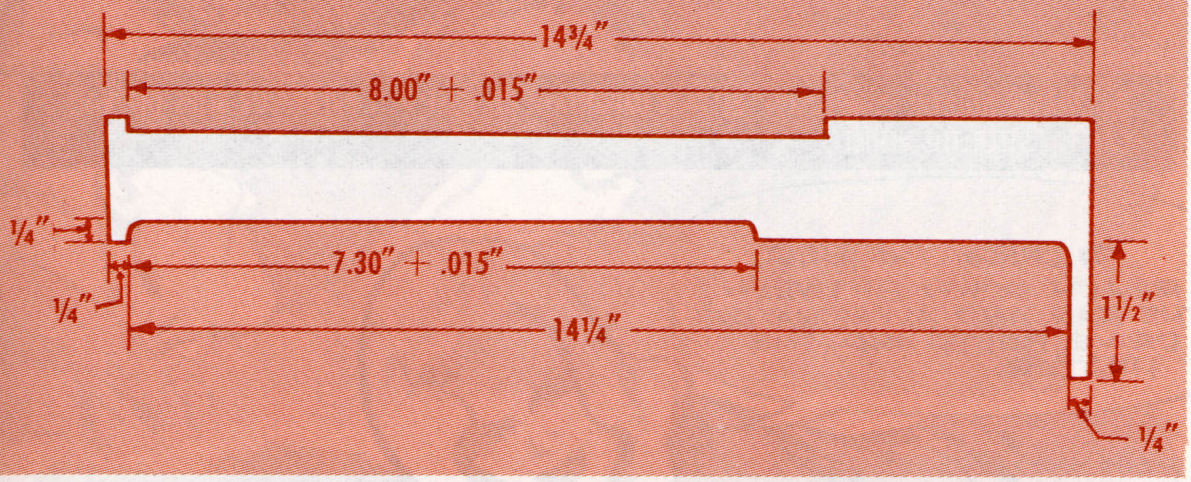
ENGINE OIL — Dipstick should be at the FULL mark before the engine is started. Smell the dipstick. If it has a gasoline odor, change the oil before starting the engine. Also check for oil leaks.

DRIVE BELTS — The V-belts for the fan, alternator, water and oil pump drives must be in good condition and tensioned right. You check tension at the belt tensioner assembly.

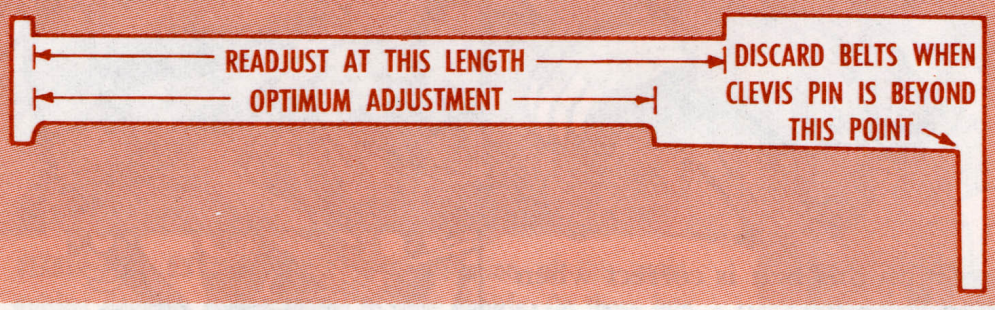
THE FAN AND ALTERNATOR BELTS:

You check tension at the belt tension assembly with a homemade belt tension adjustment gage.

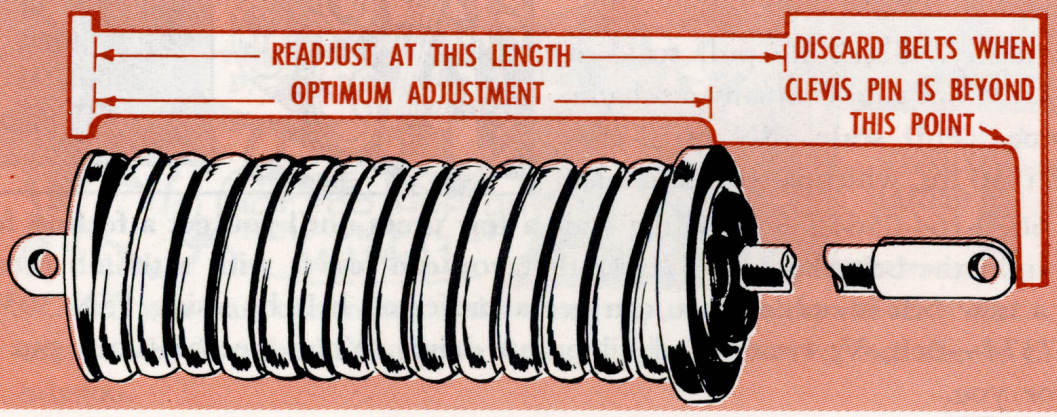
Make the gage out of 1/16 to 1/8 inch steel to the tune of the following dimensions:



. . . then stamp or etch the instructions on the gage, like so:



. . . here's how to use the gage to check for proper tension:



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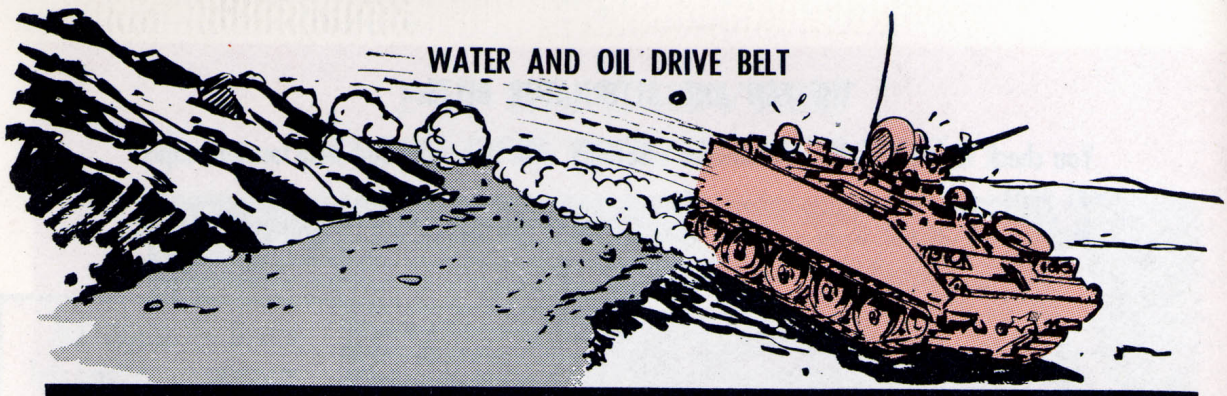
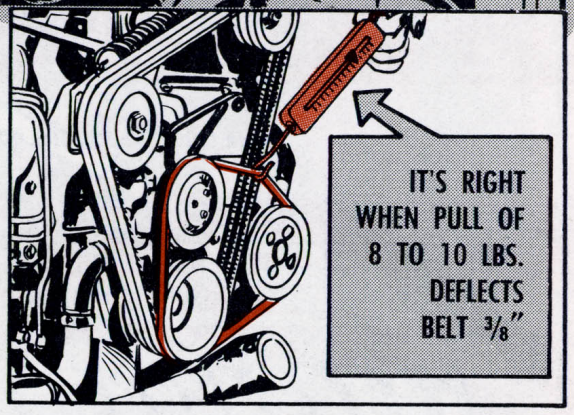


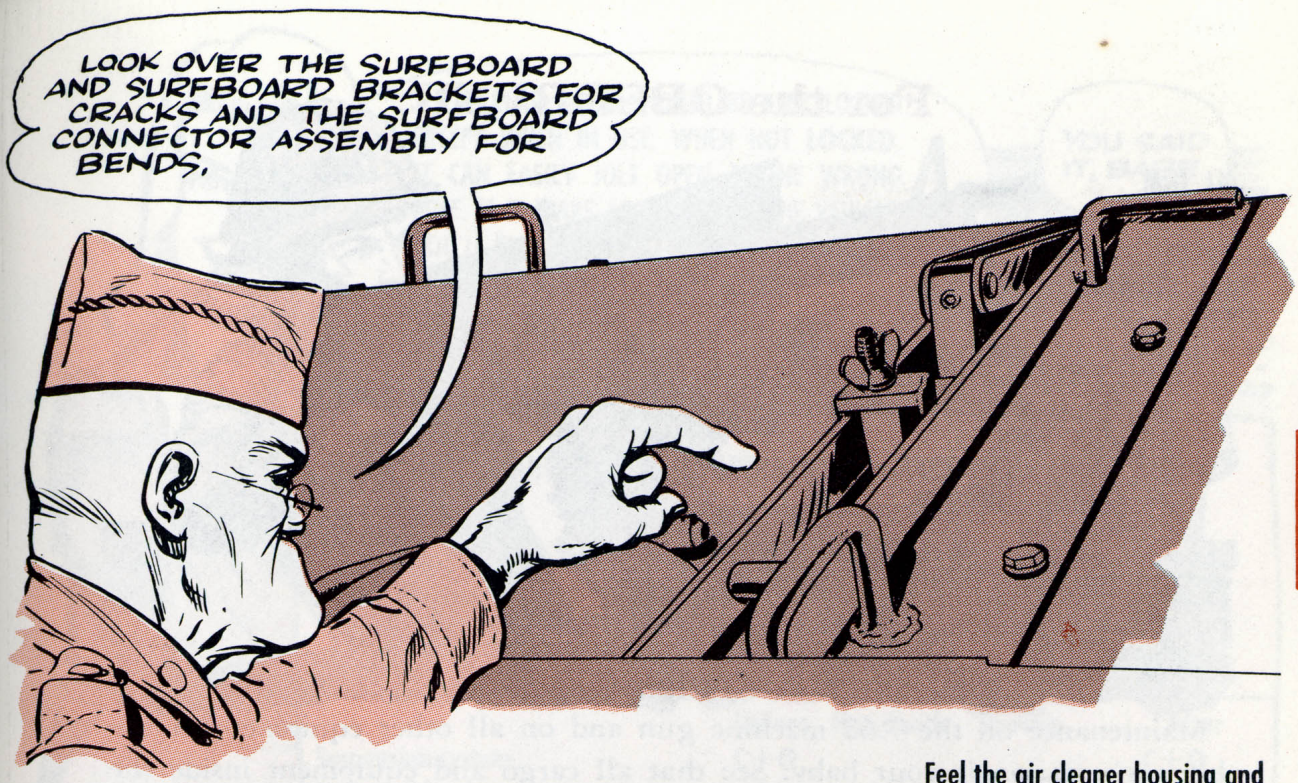
THE WATER AND OIL PUMP DRIVE BELT IS IMPORTANT BECAUSE IF IT BREAKS OR SLIPS OFF YOU CAN'T STEER THE VEHICLE.

Tension on this belt is correct when it takes 8 to 10 lbs pull on a pull scale (hooked over the belt halfway between the pump pulleys) to deflect the belt ⅜-inch.

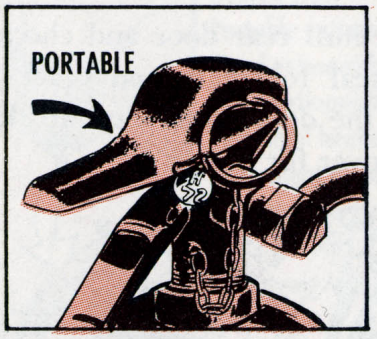


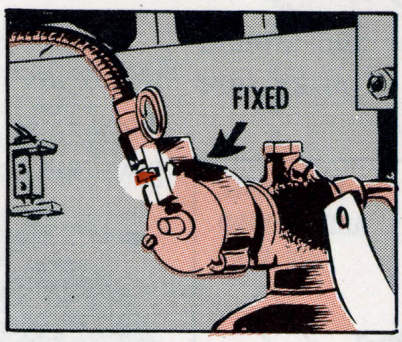
Naturally, there's no pull scale in your OEM but your company mechanic has one. (Pull scale FSN 6670-254-4634, 0-50 lbs, which is replacing scale FSN 6670-164-0564.) Borrow the scale a few times until you get a feeling for how tight the belt should be. After that you can test it with a thumb press.

If a new belt is needed, you can get a preferred belt by using FSN 3030-825-7374—Belt, V, (water and oil pump drive). Your mechanic can put it on for you.

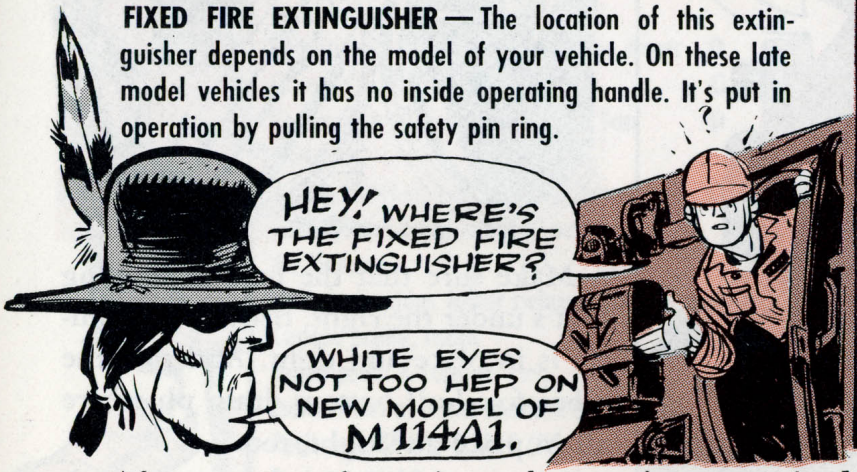


Next, check the seals of both the portable and the fixed fire extinguishers.

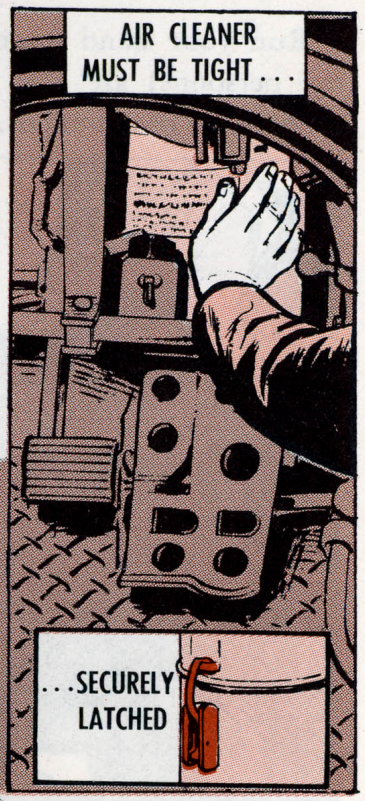




FIXED FIRE EXTINGUISHER — The location of this extinguisher depends on the model of your vehicle. On these late model vehicles it has no inside operating handle. It's put in operation by pulling the safety pin ring.



Feel the air cleaner housing and satisfy yourself that it's securely latched.

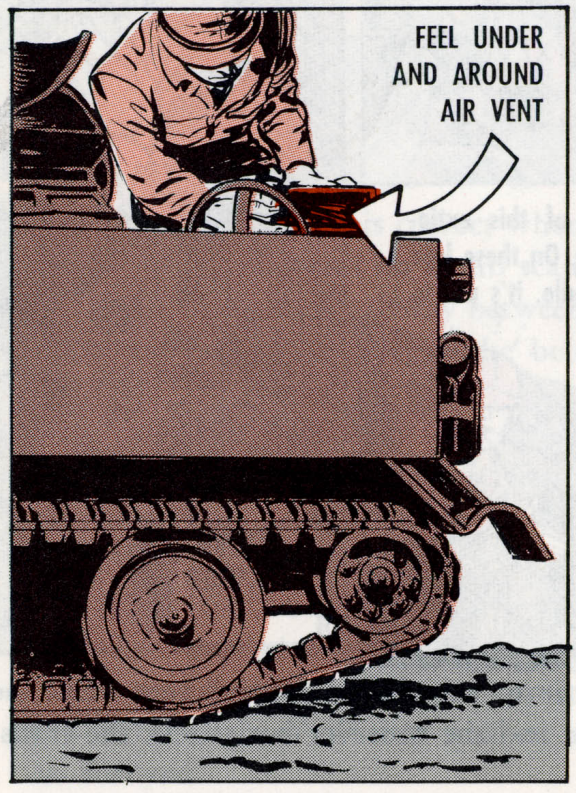


After you start the engine and warm it up, **stay in the driver's seat** while the commander hot checks the geared steer and the observer hot checks the transmission.

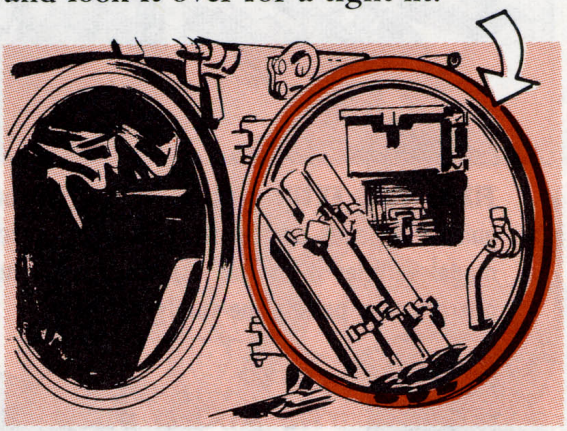
For the OBSERVER:

Maintenance on the 7.62 machine gun and on all other equipment at the observer's station is your baby. See that all cargo and equipment inside the vehicle is present, secure and properly stowed . . . this includes guns, ammunition, personal gear, rations, life preservers and all other OEM in sight.

Run your hand under and around the personnel air vent to make sure there're no obstructions.

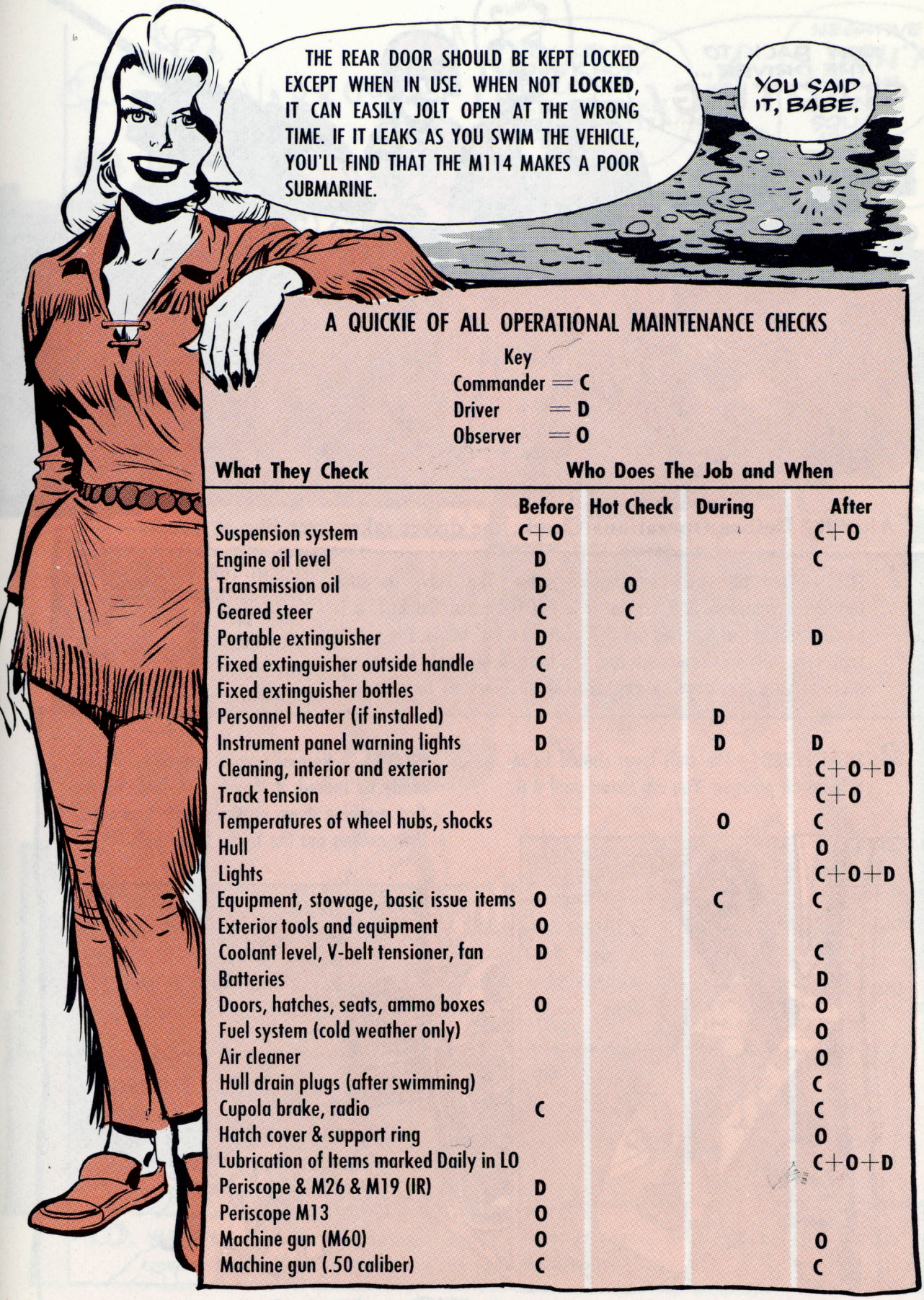


Open the hull rear door and check the water seal for tears and cracks. Then close the door from the outside and look it over for a tight fit.



Make sure that the hull drain plug that's under the right, rear, of the vehicle is in place and tight. And that the other five hull bottom drain plugs are all in place and tight, too.

After you're all done re-enter through the rear door and lock it from the inside.

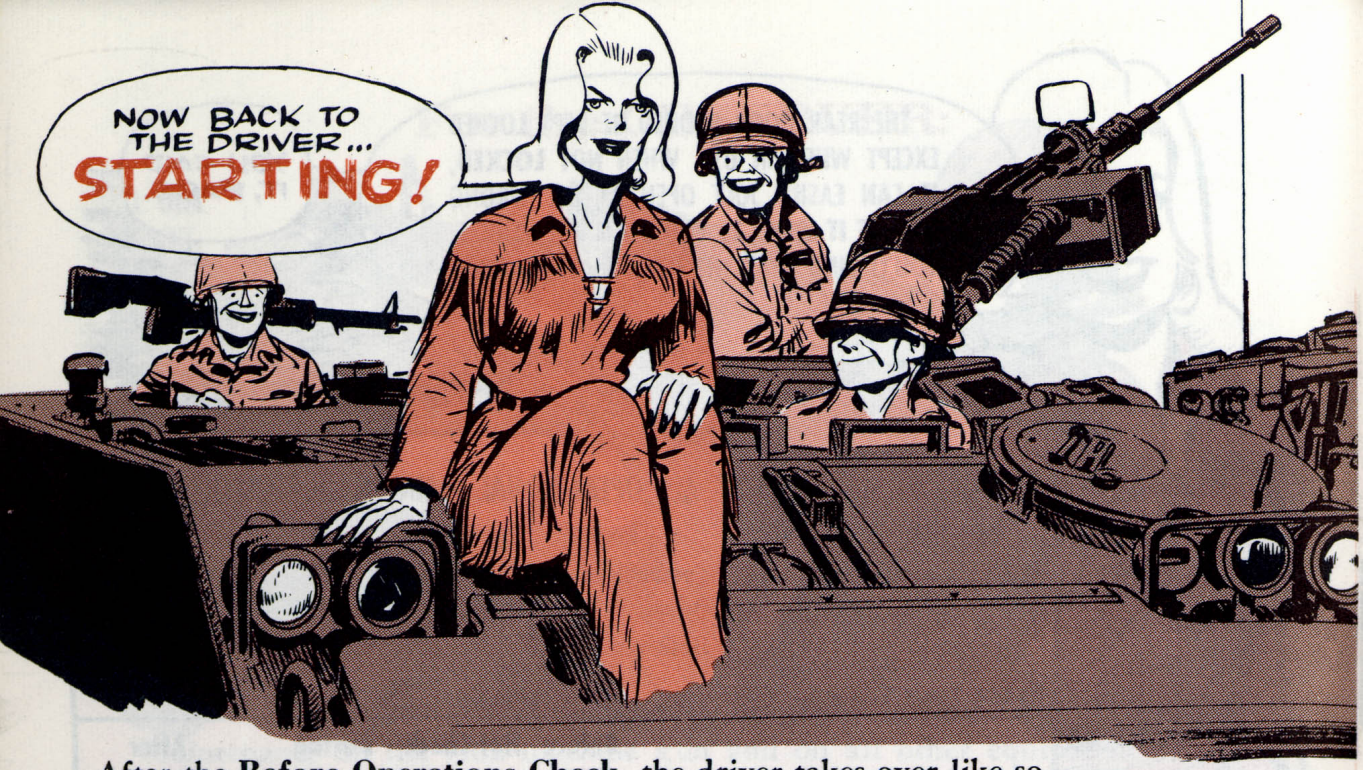


A QUICKIE OF ALL OPERATIONAL MAINTENANCE CHECKS

Key
Commander = C
Driver = D
Observer = O

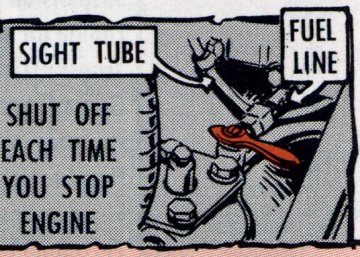
What They Check	Who Does The Job and When			
	Before	Hot Check	During	After
Suspension system	C+O			C+O
Engine oil level	D			C
Transmission oil	D	O		
Geared steer	C	C		
Portable extinguisher	D			D
Fixed extinguisher outside handle	C			
Fixed extinguisher bottles	D			
Personnel heater (if installed)	D		D	
Instrument panel warning lights	D		D	D
Cleaning, interior and exterior				C+O+D
Track tension				C+O
Temperatures of wheel hubs, shocks			O	C
Hull				O
Lights				C+O+D
Equipment, stowage, basic issue items	O		C	C
Exterior tools and equipment	O			
Coolant level, V-belt tensioner, fan	D			C
Batteries				D
Doors, hatches, seats, ammo boxes	O			O
Fuel system (cold weather only)				O
Air cleaner				O
Hull drain plugs (after swimming)				C
Cupola brake, radio	C			C
Hatch cover & support ring				O
Lubrication of Items marked Daily in LO				C+O+D
Periscope & M26 & M19 (IR)	D			
Periscope M13	O			
Machine gun (M60)	O			O
Machine gun (.50 caliber)	C			C

P.S. MORE

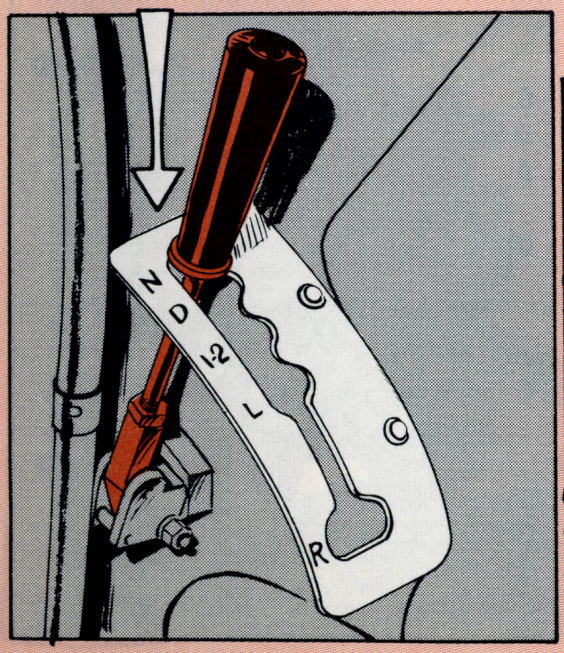


After the **Before Operations Check**, the driver takes over like so . . .

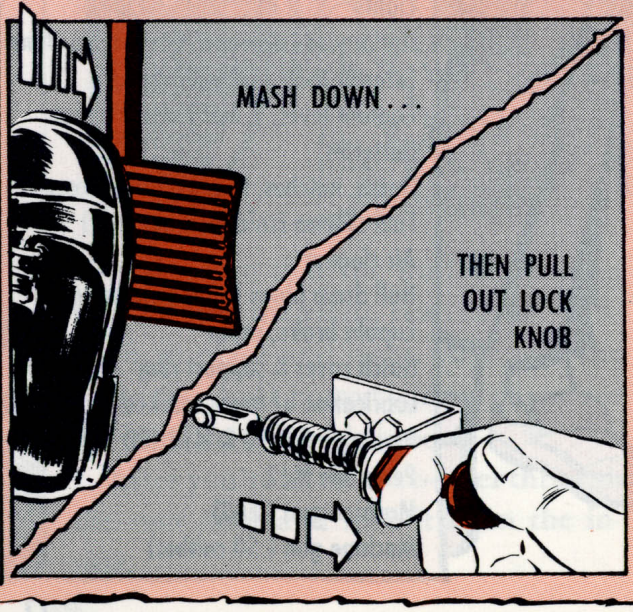
1. FUEL — Turn ON your fuel shut-off valve. This valve operates through a complete 360° circle. It is full ON when the handle is parallel to the fuel line and full OFF when at a 90° angle. The plastic sight tube tells you how much fuel you have in the tank. It is not as accurate as a fuel gage so gas up when it shows ¼ tank or less.



2. SHIFT LEVER — The shift lever should be in N (neutral) position. You can't start until it is.



3. BRAKES — Normally your brakes would already be locked. If they're not, lock 'em by first mashing down on the service brake and then pulling out the brake lock knob.



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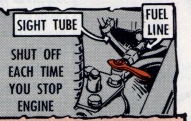

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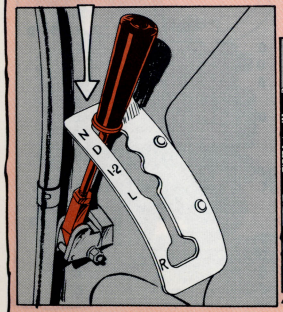

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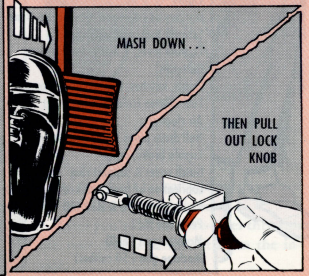
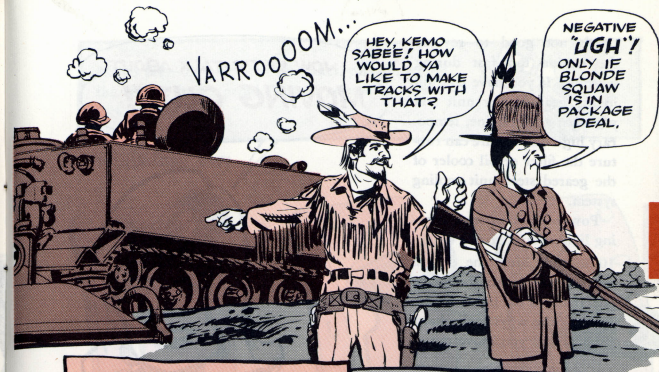
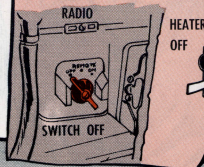
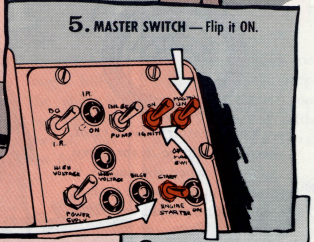




4. ACCESSORY STUFF — Turn off the radio, heater and other accessory equipment before you start.



5. MASTER SWITCH — Flip it ON.



6. STARTER SWITCH — Push it up to check for hydrostatic lock. Hold it ON for only a couple of seconds and don't turn on the ignition switch yet. If everything's OK then . . .

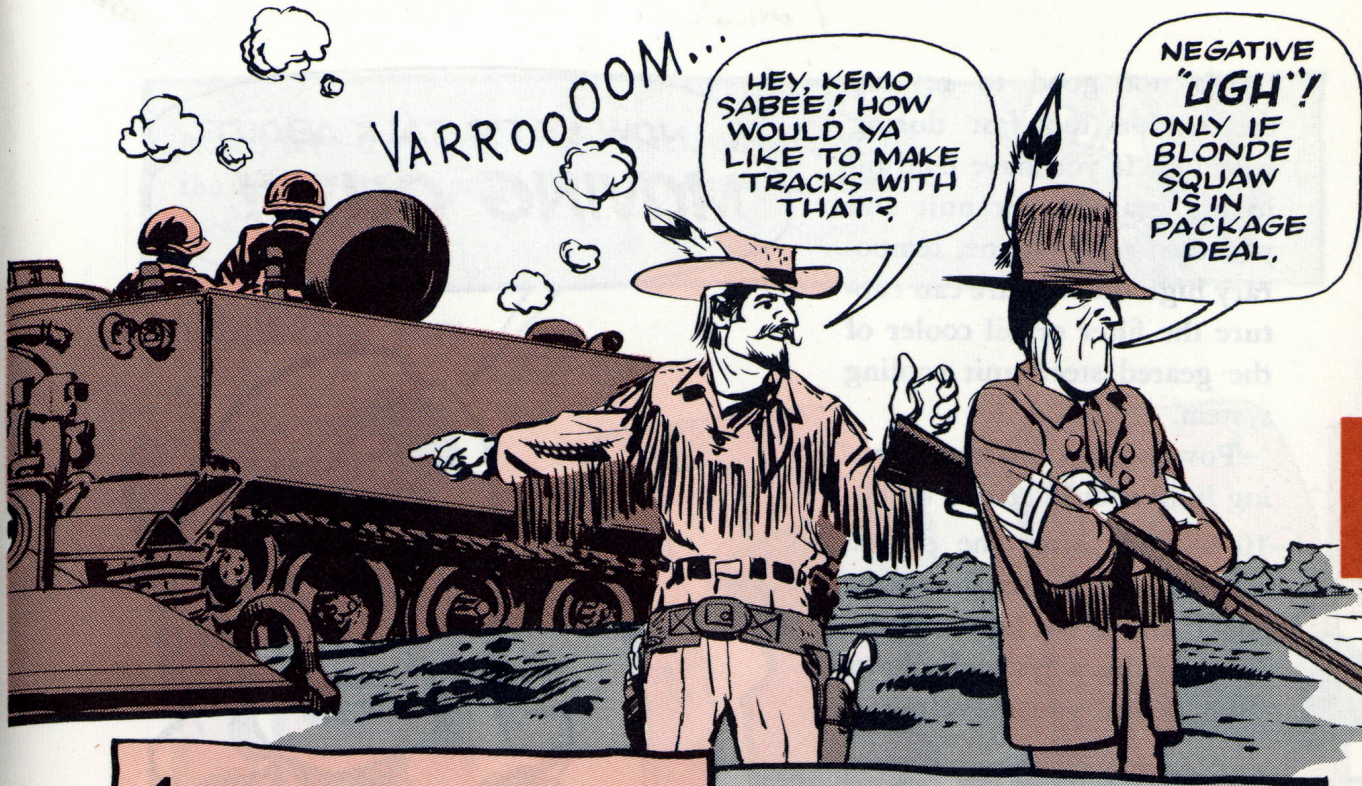
7. CHOKE — Use it as needed. You'll learn by experience the right settings for various conditions.

8. IGNITION SWITCH — Flip it ON now.

9. STARTER SWITCH — Push it up and crank the engine but not over 15 seconds at a time. If it doesn't start within the 15 seconds, wait 30 seconds before you try again.

10. WARM UP — Let the engine warm up at least three minutes — five in cold weather — before you move out. While it warms up, check your instruments.

MORE



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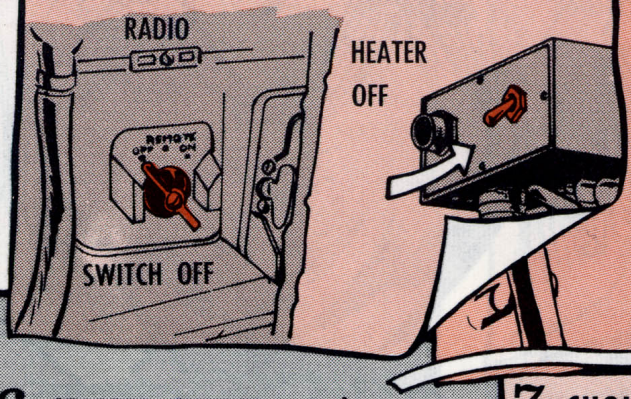

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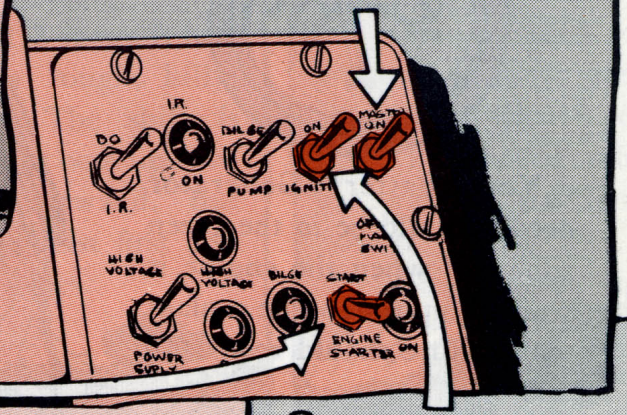

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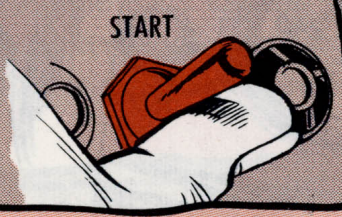

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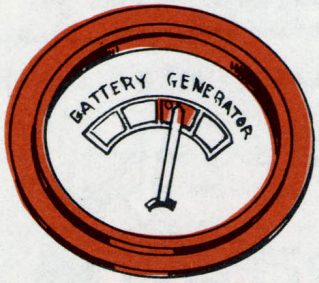
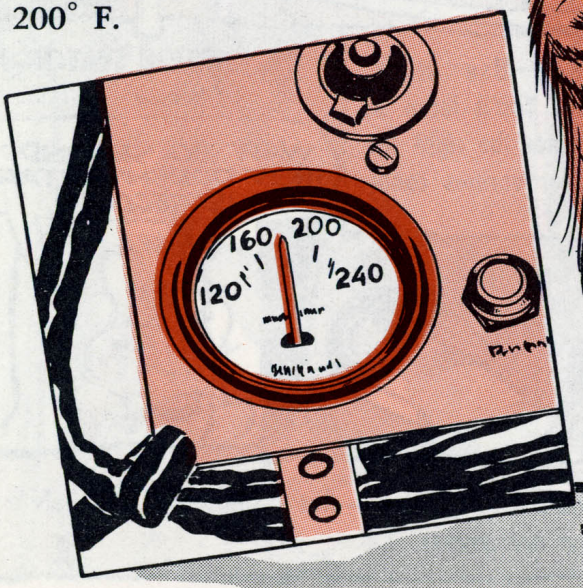
P.S. MORE

It's not good to rev up the engine too fast during warmup. If you have cold oil in the geared steer unit and you race your engine, temporary high oil pressure can rupture the filter or oil cooler of the geared steer unit cooling system.

Power plant master warning light should go out within 10 seconds after the engine starts. Other lights should be out. If any of the lights are on, find out the whys and wherefores before you move out.



Your Battery-Generator needle should be in the green zone and when the engine is warmed up the engine coolant temperature should read 160-200° F.



NOW, LET'S TALK ABOUT
MOVING OUT !!

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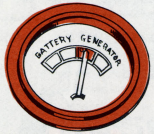

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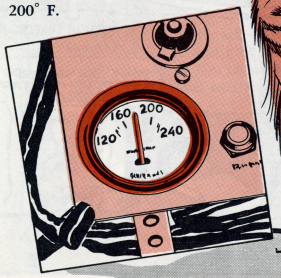

NOW, LET'S TALK ABOUT
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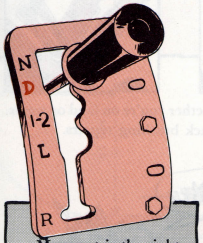
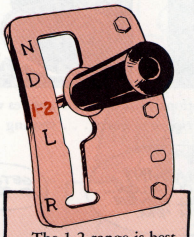
BRAKES OFF—To unlock your brakes, press down on the service brake pedal. That'll release the brake lock.

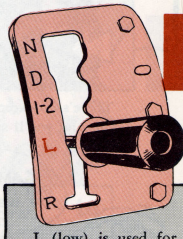
TRANSMISSION SHIFT —



Move out in the right range . . . D (drive), 1-2 or L (low). Mostly you'll want to stay in D (drive) because that gives you automatic up or down shift through the four forward speeds.



The 1-2 range is best for very rough, hilly, country. The shift is automatic, both upward and downward, but only between first and second gears.



L (low) is used for going up or down steep grades or where you need low speed with maximum pulling power.

UPSHIFT AND DOWNSHIFT — Are automatic. F'rinstance,in D (drive), you can be in 1st, 2nd, 3rd, or 4th gear. It'll change to meet driving conditions.

In 1-2 range, the shift is automatic between first and second only. In L (low), of course, you will grind along in low without any upshift.

MORE

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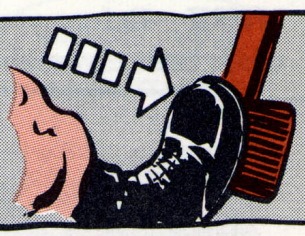

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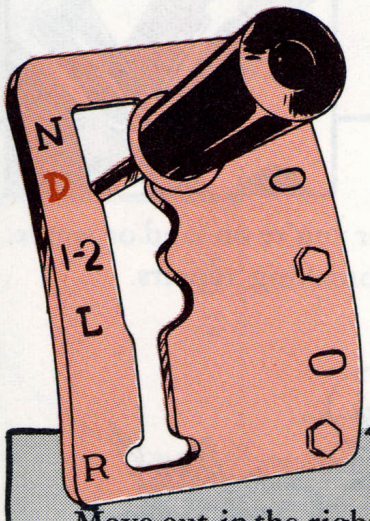

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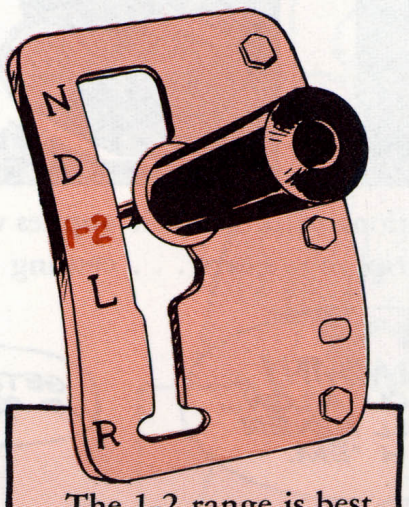

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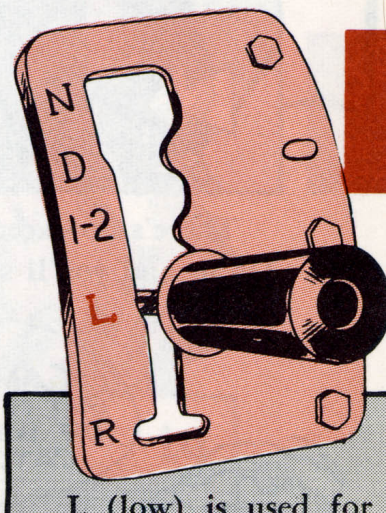

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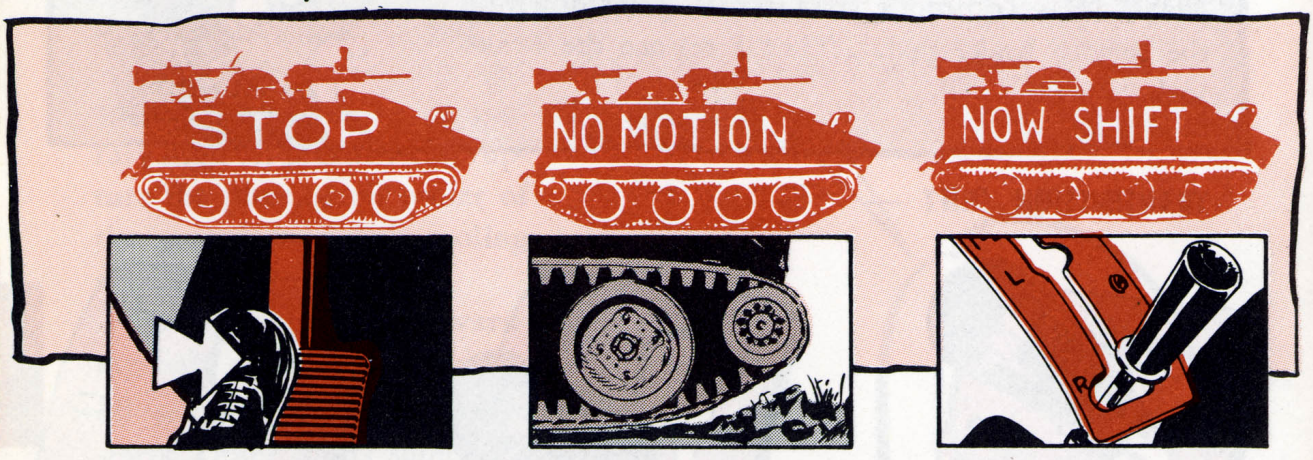
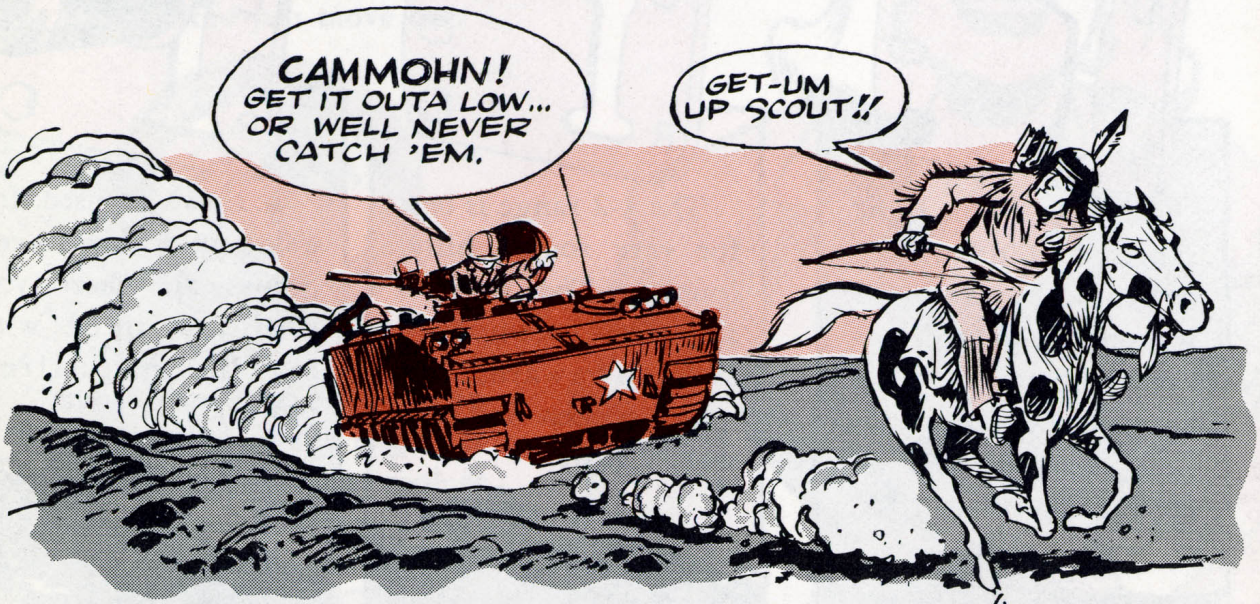
PS MORE

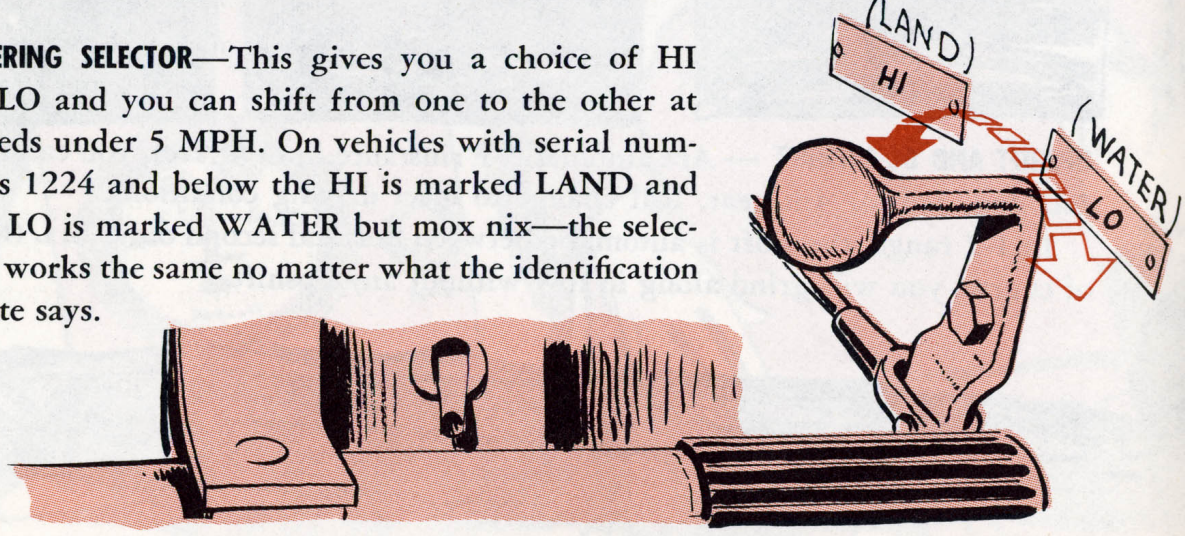
REVERSE—Before you go into or out of R (reverse)—STOP any motion of the track before you shift.



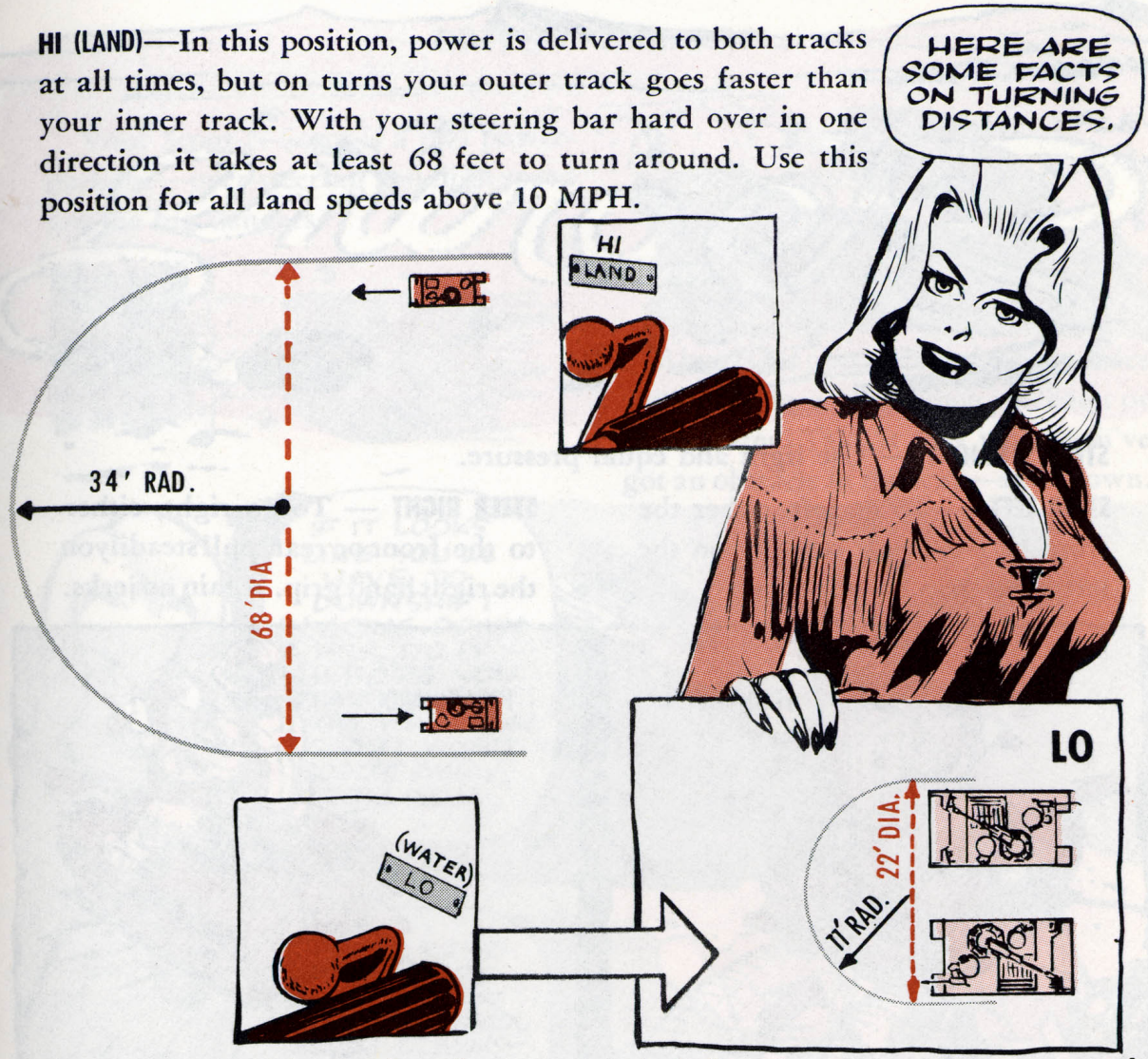
There's no exceptions to this and it applies whether you're on land or water. Do it, and you'll strip your gears . . . causing back breaking repairs.



STEERING SELECTOR—This gives you a choice of HI or LO and you can shift from one to the other at speeds under 5 MPH. On vehicles with serial numbers 1224 and below the HI is marked LAND and the LO is marked WATER but mox nix—the selector works the same no matter what the identification plate says.



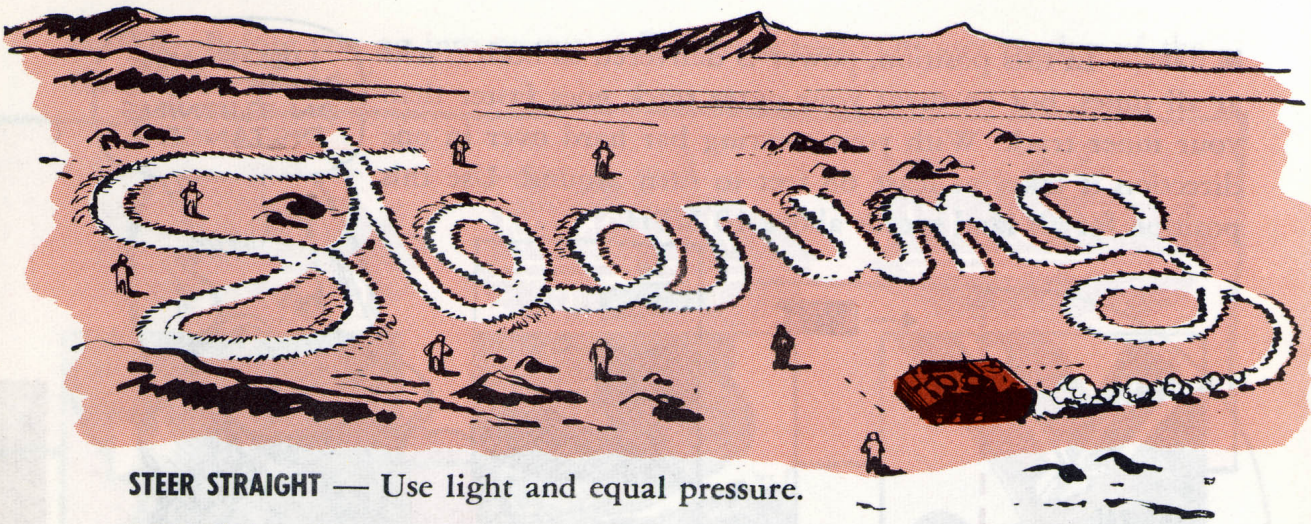
HI (LAND)—In this position, power is delivered to both tracks at all times, but on turns your outer track goes faster than your inner track. With your steering bar hard over in one direction it takes at least 68 feet to turn around. Use this position for all land speeds above 10 MPH.



LO (WATER)—In this position the inner track locks when you make a turn and the outer track, which continues to turn, skids the inner track around. This lets you turn on land in as little as 22 feet. However, you don't use it on land when you are going faster than 10 MPH. Because this position gives you better control it is used when you are in water. Once you get out of the water, though, shift to the HI (LAND) position because you'll want to go faster than 10 MPH. The LO (WATER) position gives you maximum control and additional power so sometimes you'll want to use it on ice or mud if one track is spinning. Just remember, in this position a sudden jerk on the steering bar will pivot your vehicle . . . that's the reason for the no-faster-than-10 MPH rule. This position will give you the highest possible power for climbing steep grades but you'll have to go gentle on the steering.

There's no way you can make the two tracks on the M114 spin in opposite directions. And they weren't made to bash head-on into big trees. This'll break 'em up real fast. Always pick a route and speeds that'll cause the least wear and tear . . . and repairs.

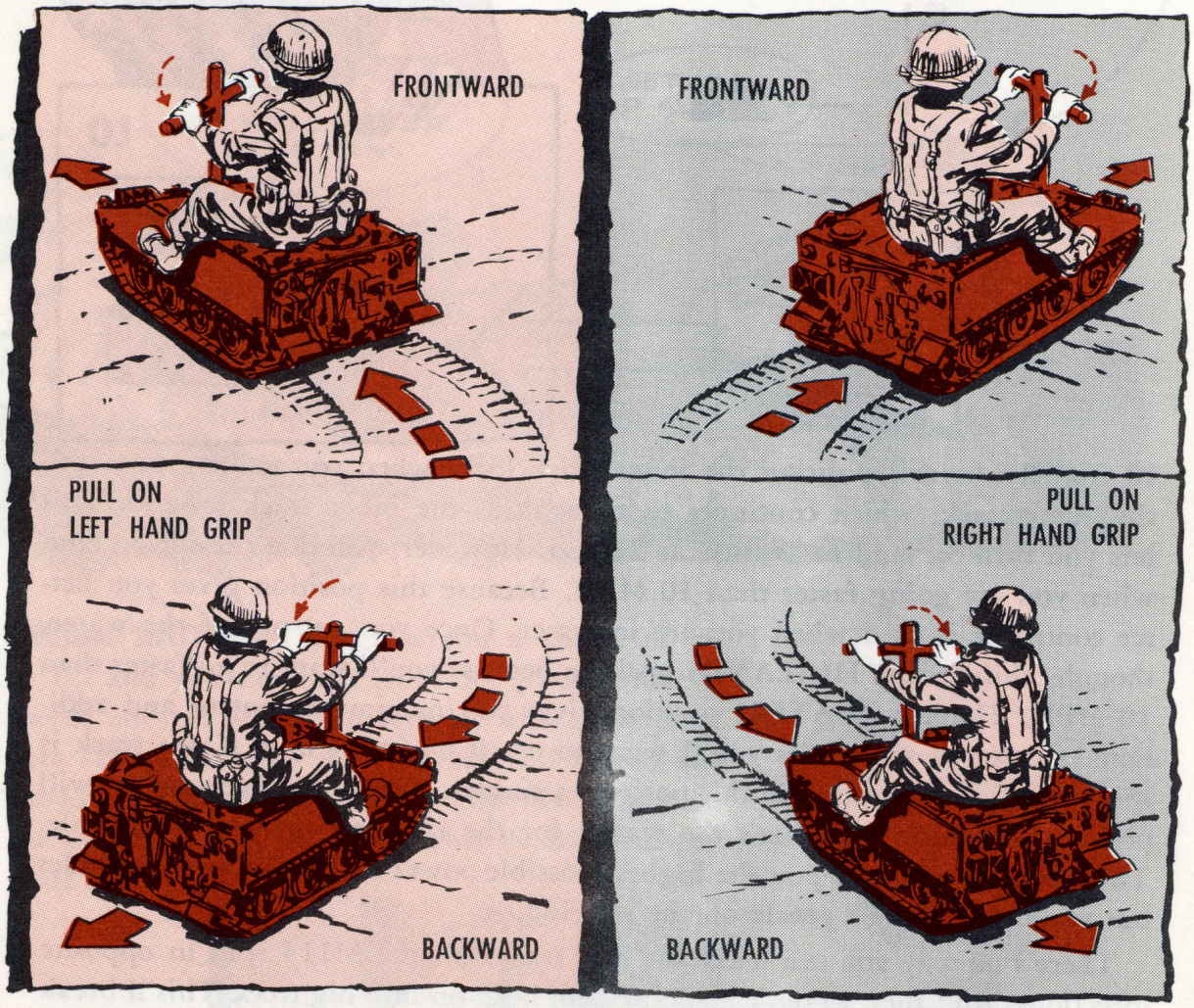
PS MORE



STEER STRAIGHT — Use light and equal pressure.

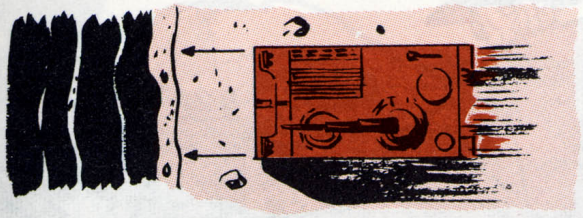
STEER LEFT — To go left, either the front or rear, pull steadily on the left hand grip. . . no jerks.

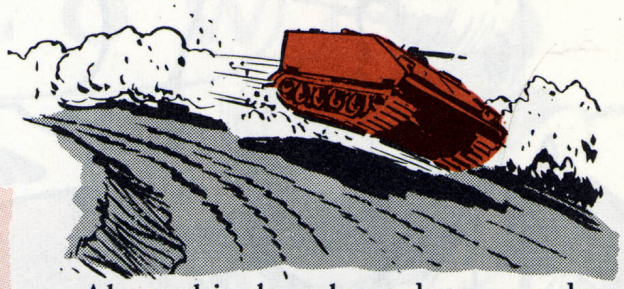
STEER RIGHT — To go right, either to the front or rear, pull steadilyon the right hand grip. Again no jerks.



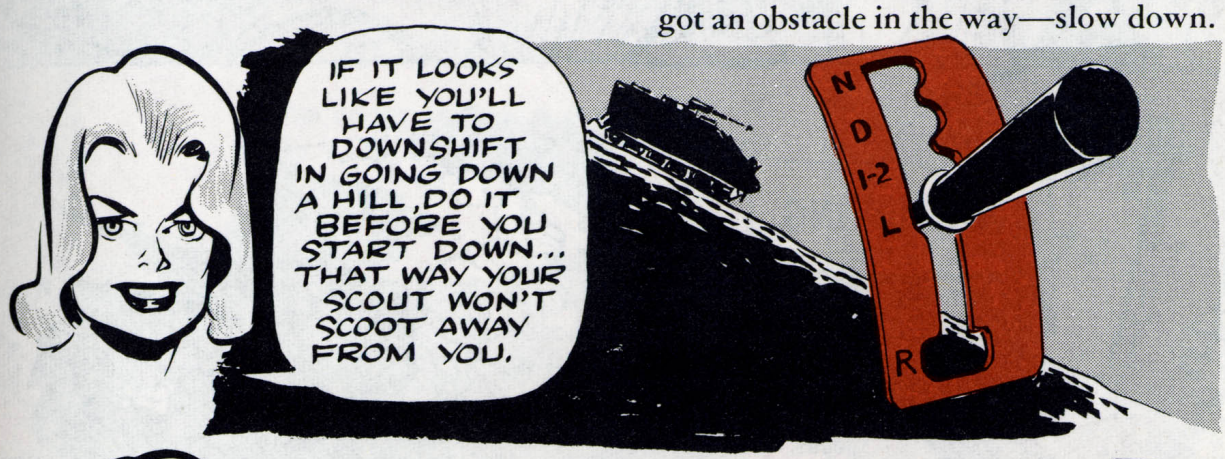
TIGHT TURNS — You'll throw a track for sure if you turn fast in a tight circle. Use a series of short, smooth, motions and your track won't throw.

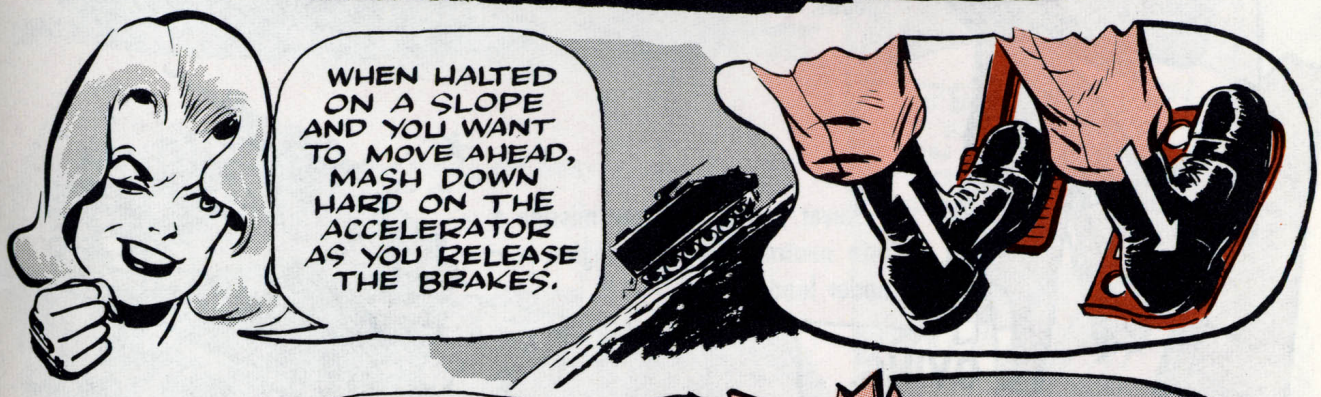
Your Scout-N-Scoot is a real power-package—over-steering and high speed are the big dangers.

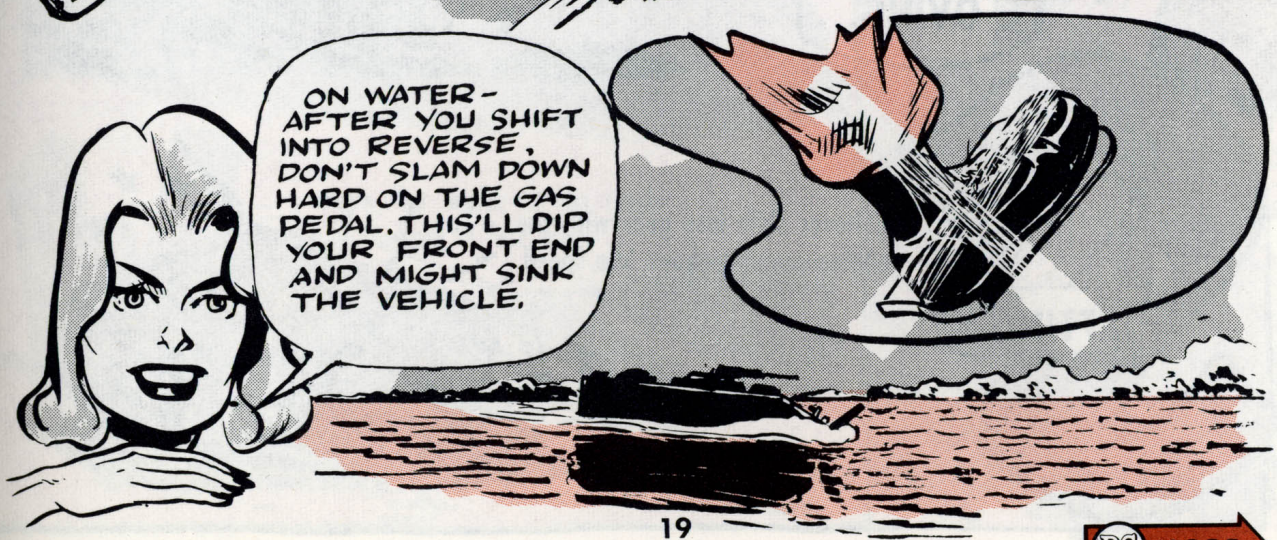




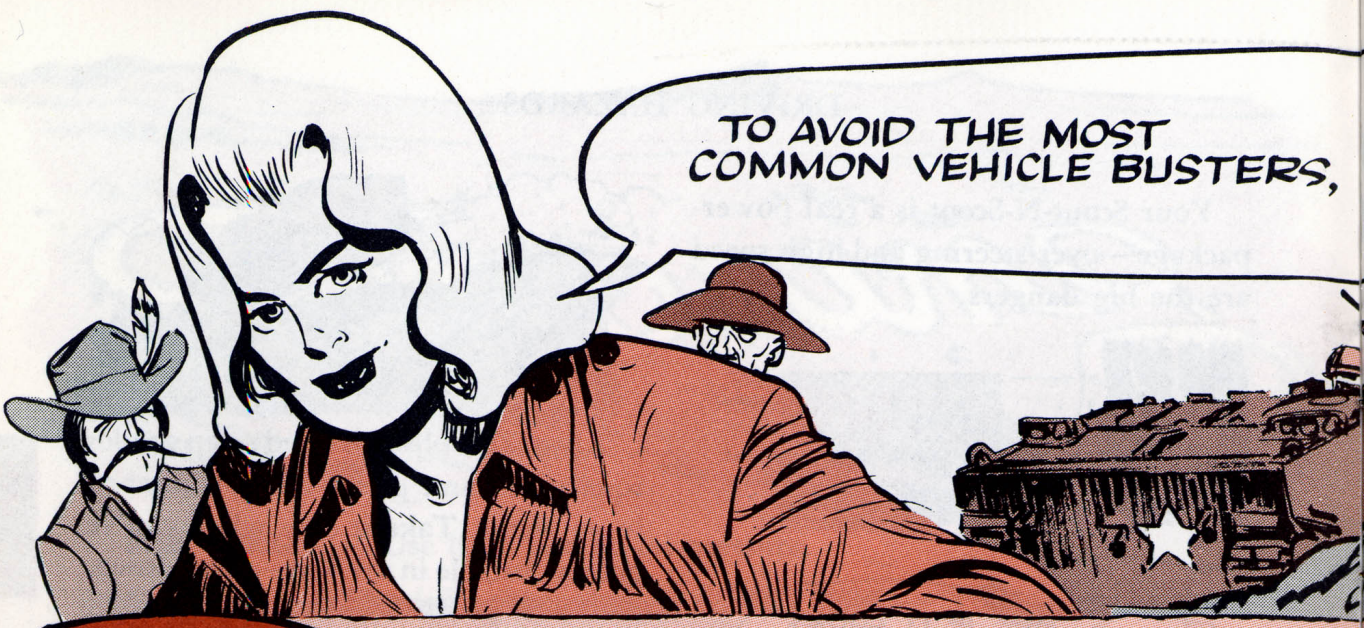
Always hit obstacles and steep grades square on. Same goes when you enter or leave water. Take it easy when you've got an obstacle in the way—slow down.







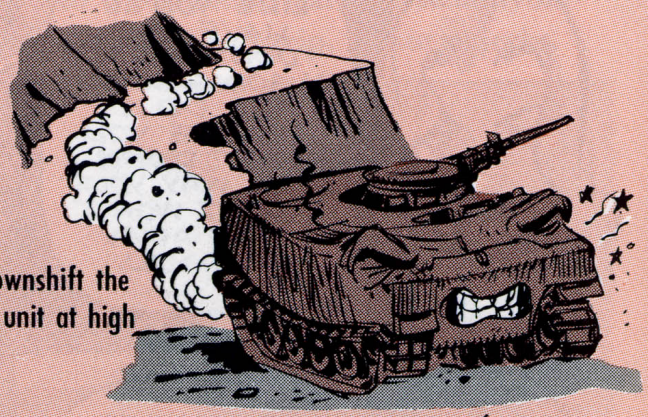
PS MORE



D

OWNSHIFTING.

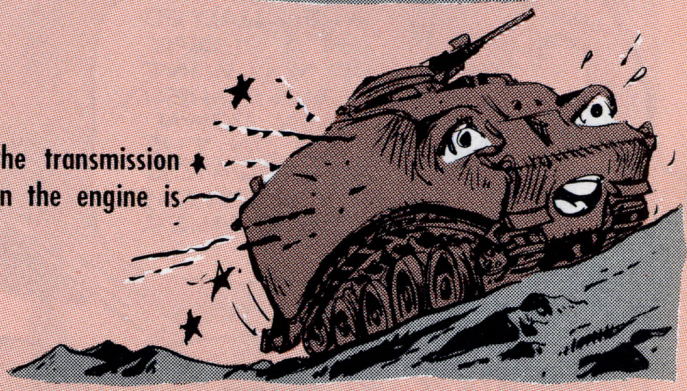
Never manually downshift the transmission or steer unit at high speeds.



M

OVING.

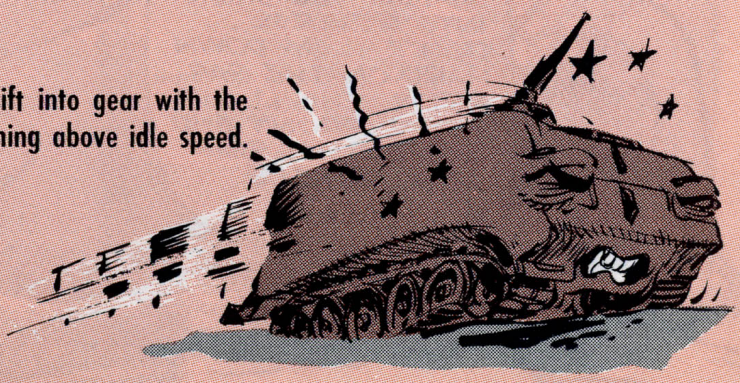
Never move the transmission into neutral when the engine is under load.



S

HIFTING.

Never shift into gear with the engine running above idle speed.



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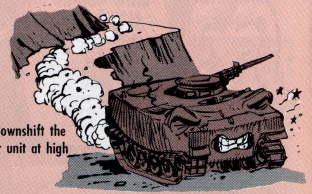

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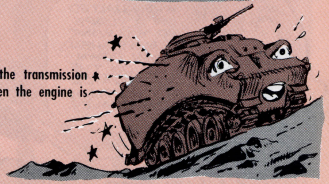

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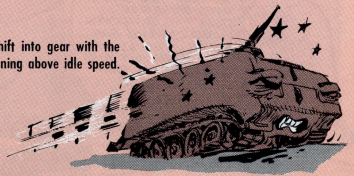
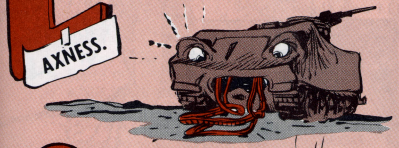


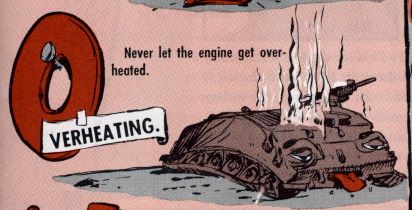
L AXNESS.

Never operate until you're sure all the V-belts are tight but not overtightened.



O VERHEATING.

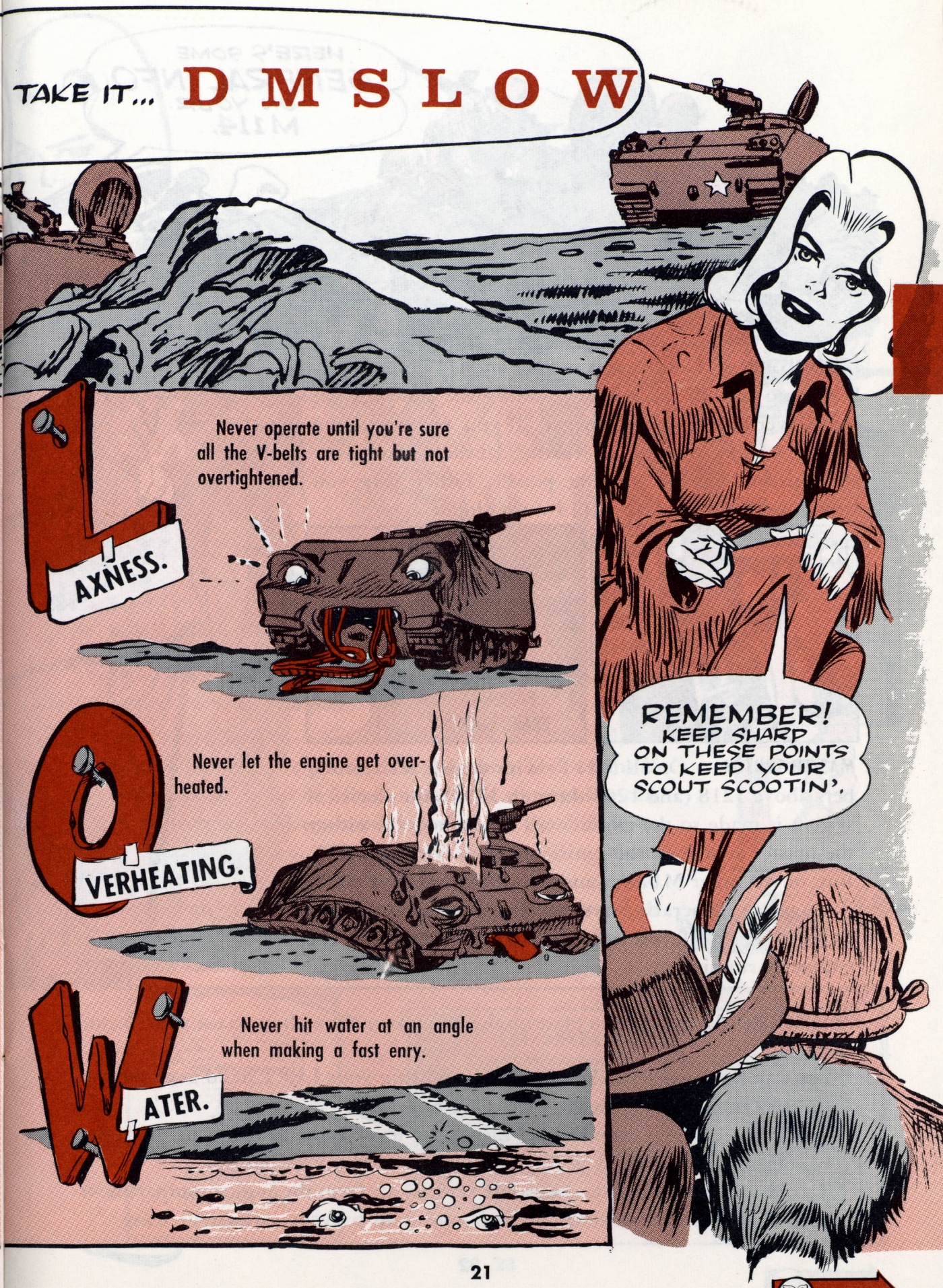
Never let the engine get overheated.



W ATER.

Never hit water at an angle when making a fast enry.

MORE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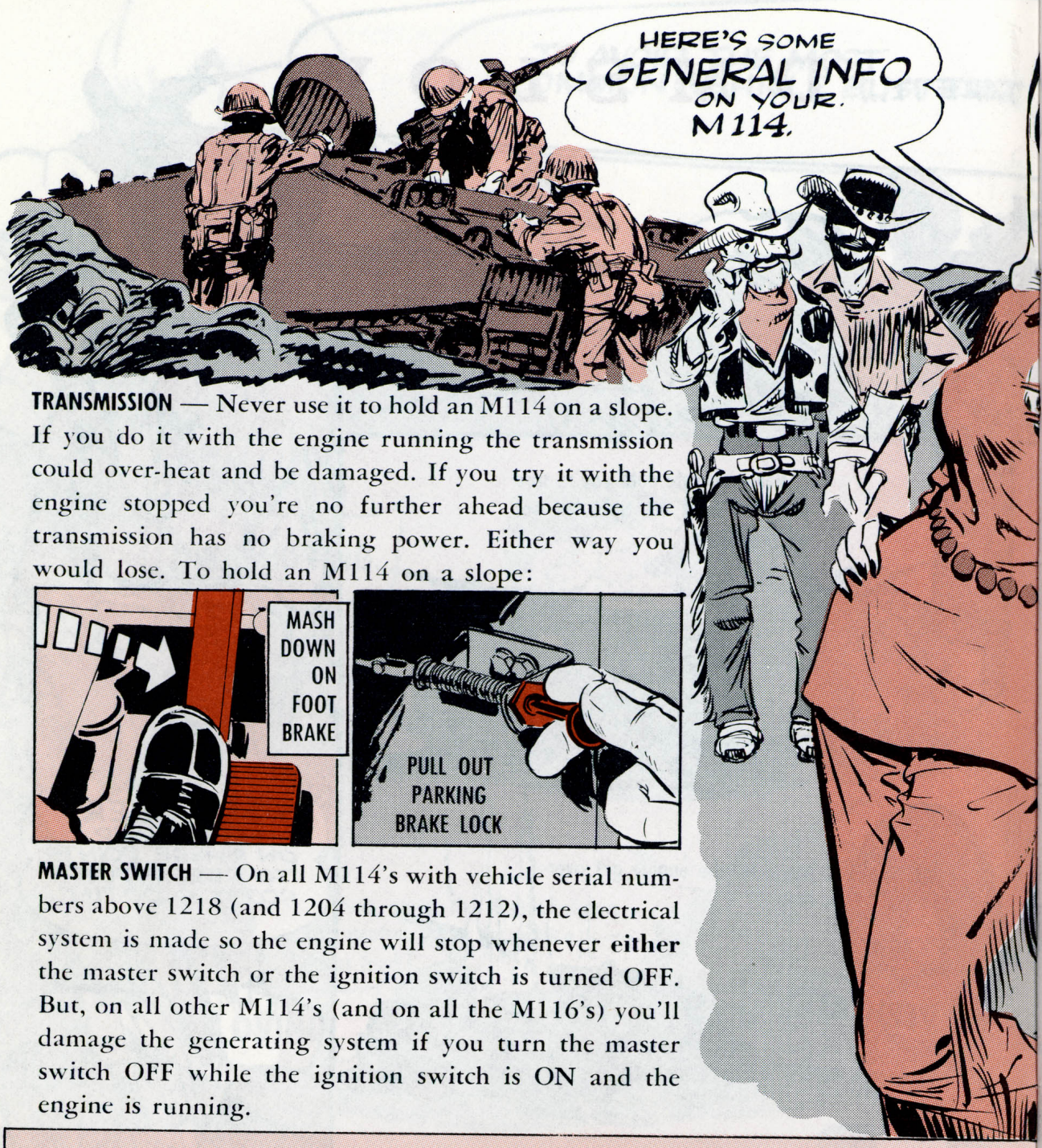
REMEMBER! KEEP SHARP ON THESE POINTS TO KEEP YOUR SCOUT SCOOTIN'.

P.S. MORE



TRANSMISSION — Never use it to hold an M114 on a slope. If you do it with the engine running the transmission could over-heat and be damaged. If you try it with the engine stopped you're no further ahead because the transmission has no braking power. Either way you would lose. To hold an M114 on a slope:

MASTER SWITCH — On all M114's with vehicle serial numbers above 1218 (and 1204 through 1212), the electrical system is made so the engine will stop whenever **either** the master switch or the ignition switch is turned OFF. But, on all other M114's (and on all the M116's) you'll damage the generating system if you turn the master switch OFF while the ignition switch is ON and the engine is running.

AIR SELECTOR—An instruction plate on the air cleaner shows how to use the selector handle.

You can't see the lever handle but by putting your **LEFT** hand over the top of the air cleaner you'll find it with your fingers.

Under hot or dusty conditions, throw the lever right to draw air from the crew compartment. This'll make the cleaner act as a ventilator.

In cold weather throw the lever left to draw air from the engine compartment to keep the crew compartment warmer and help prevent carburetor icing.

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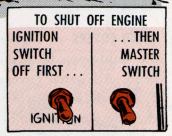
Follow this rule: TO SHUT OFF THE ENGINE, ALWAYS TURN THE IGNITION SWITCH **OFF** AND WAIT UNTIL THE ENGINE STOPS BEFORE FLIPPING THE MASTER SWITCH **OFF**.

Get in this habit and you'll have no worries no matter what serial numbers are on the data place.



RUNAWAY SCOOTER — The D (Drive) and N (Neutral) on your shift lever are pretty close together. This means if your linkage is out of kilter just a little, the vehicle can move forward when you think you've got the shift lever in neutral. So-o-o-o, make sure the brake is full on until you get ready to move out and don't rev up your engine more than you need to. Also, don't let anyone stand in front of a vehicle that is being started or that has its engine running.

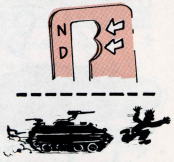


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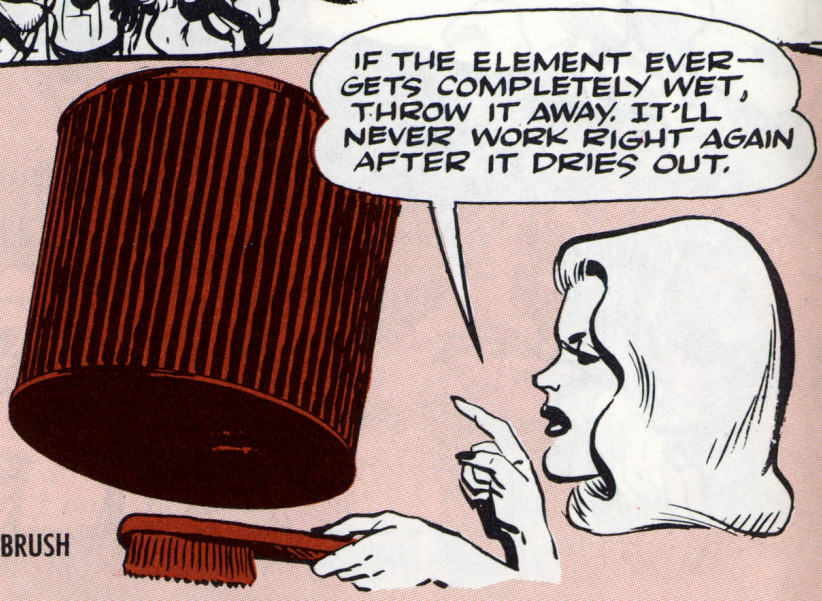
PLATE HAS INSTRUCTIONS FOR SELECTOR HANDLE

P.S. MORE

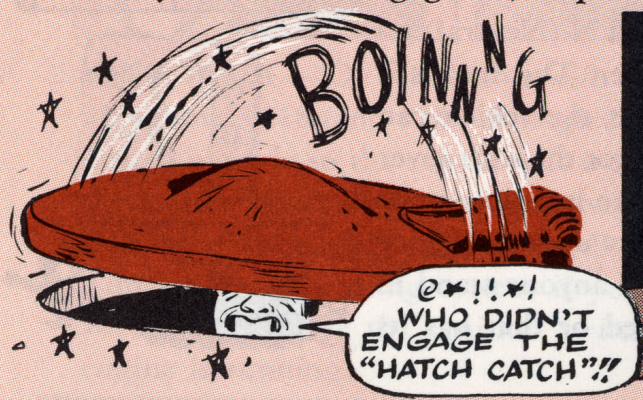
AIR CLEANER — The filter element gets cleaned with a soft brush when needed.

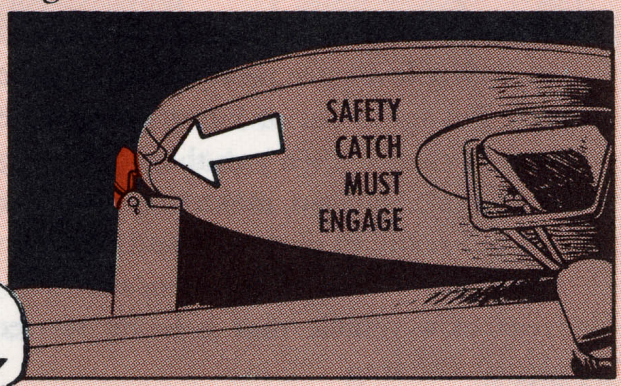
The present FSN for the filter element is 2940-981-8610. It'll soon be exhausted to FSN 2940-679-9716.



HATCH COVERS — When driving with the hatch cover open make sure you have the hold-open latch completely engaged or the hatch cover could bash your head. All hatch covers on the vehicle can be just as dangerous if not secured.

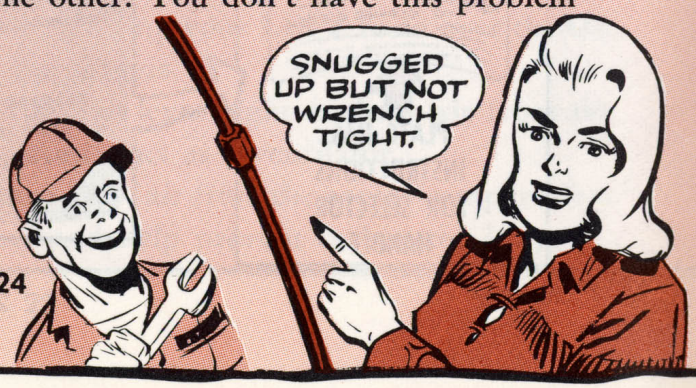
The slack adjusting stud must put enough tension on the driver's hatch or the safety catch won't engage. So, keep it tight.

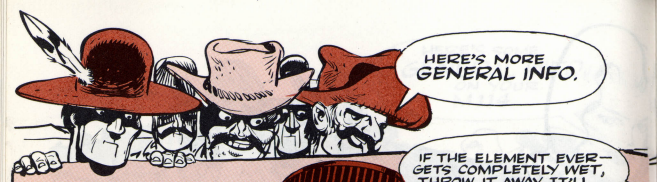




If you want to close the Commander's hatch cover, the .50 caliber should be in travel lock. If it's swinging around freely, hold the receiver up with one hand while you close the hatch with the other. You don't have this problem with the M114A1.

FUEL LINES — If your M114 or M114A1 is new, check to make sure the fuel lines are tight. They should be snugged but not wrench-tight.





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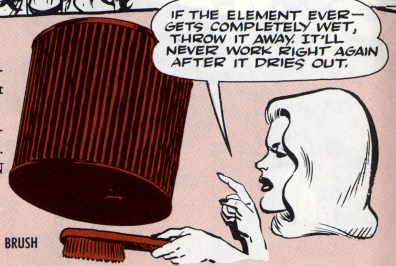

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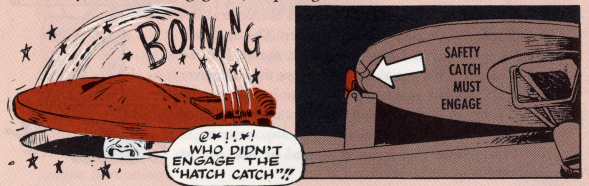

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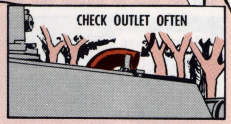
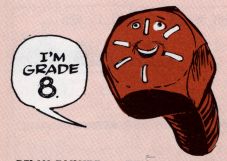
EMERGENCY STOP — If you're going fast and you hear a quick "SNAP" noise like a tree breaking, it could mean you've broken a track. Don't try to steer or put on the brakes. Just take your foot off the gas and let the vehicle roll to a stop by itself. Warn the rest of the crew so they can hang on to something.

ENGINE EXHAUST OUTLET — When you're operating in heavily wooded areas it's easy to get your engine exhaust outlet dented. If it's too badly dented, back-pressure could build up in the exhaust system and cause damage to your engine. So-o-o-o, check this often.



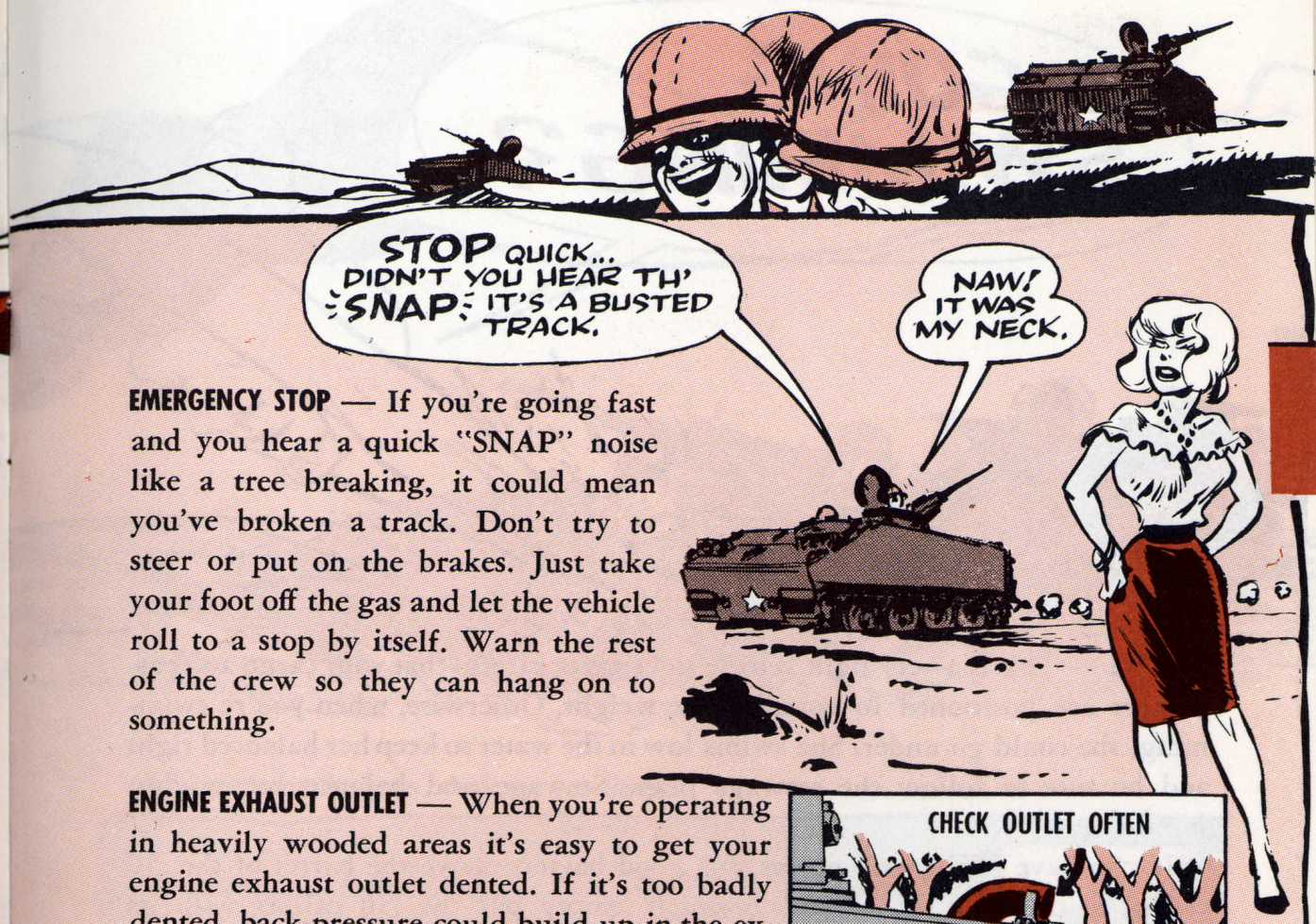
AMMO TIE-DOWN — There are 27 of these straps and you gotta check 'em often for tightness. If you stow a partial ammunition load you have to take particular care with the horizontal straps to make sure the ammunition boxes will stay put.



GRADE 8 SCREW — Grade 8 screws and bolts are what your Scout needs. They're harder than Grade 5's of the same size. You can tell the Grade 8's by the six slash marks on the head. Parts will fail if they're put together with low grade screws.

RELAY FAILURE — Your starter and bilge pump relays are supposed to be air- and water-tight. If the box 'gets cracked or the seal doesn't hold, moisture will get in. Then the coil will rust and short out. Inspect these relay boxes often and keep 'em water-tight.

DO MORE



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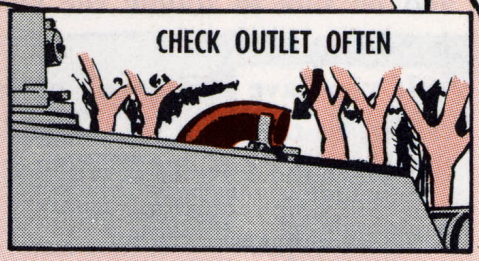

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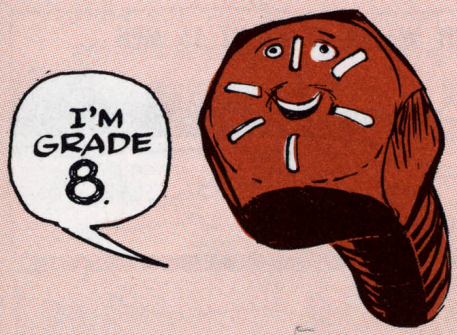

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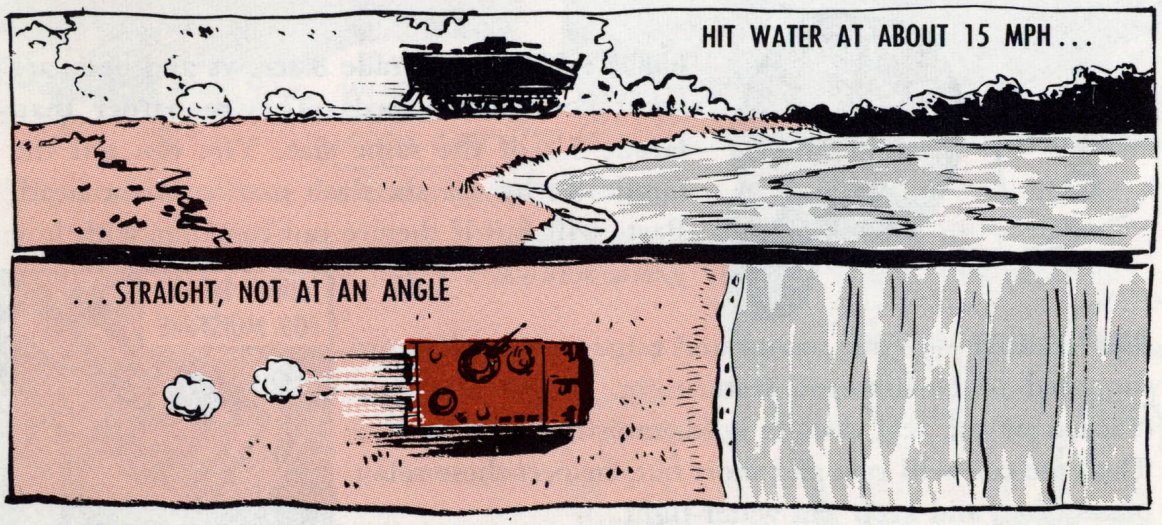
PS MORE

BALANCE — This is a very light vehicle so be extra careful that your cargo and passengers are positioned to equalize the weight. Otherwise, when you're swimming, she could go under. She swims low in the water so keep her balanced right and be sure to follow the stowage plan. Stowage and balance are mighty important.

If you have a full tank of gas, for good balance move the barrel of the .50 caliber to the right. If the tank is nearly empty put the .50 caliber with its barrel to the left. This will help equalize the weight.

ENTERING STREAM — When entering a stream select a gentle, sloping, bank without rocks, stumps or debris and drive into the water slowly at right angles to the bank.

If you've got to make a fast entry hit the bank straight, not at an angle.

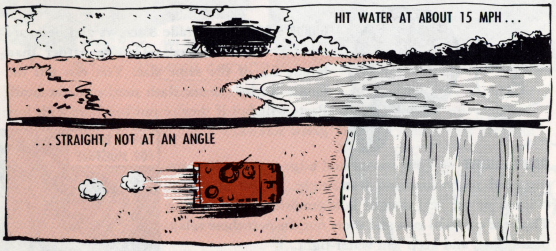


BALANCE — This is a very light vehicle so be extra careful that your cargo and passengers are positioned to equalize the weight. Otherwise, when you're swimming, she could go under. She swims low in the water so keep her balanced right and be sure to follow the stowage plan. Stowage and balance are mighty important.

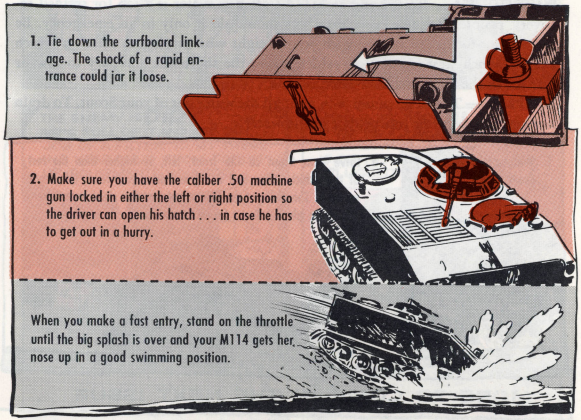
If you have a full tank of gas, for good balance move the barrel of the .50 caliber to the right. If the tank is nearly empty put the .50 caliber with its barrel to the left. This will help equalize the weight.

ENTERING STREAM — When entering a stream select a gentle, sloping, bank without rocks, stumps or debris and drive into the water slowly at right angles to the bank.

If you've got to make a fast entry hit the bank straight, not at an angle.



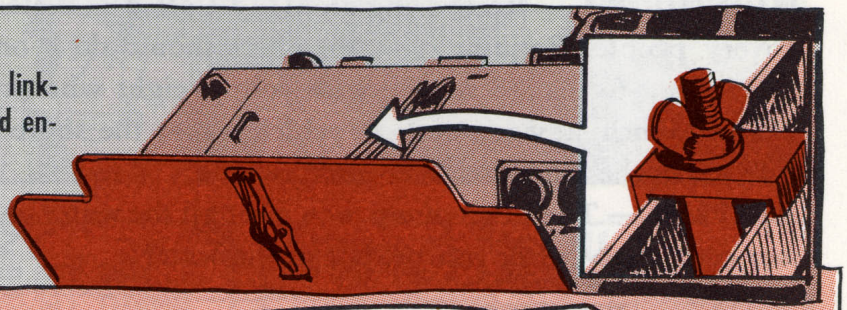
Before entering the water, check out two things:



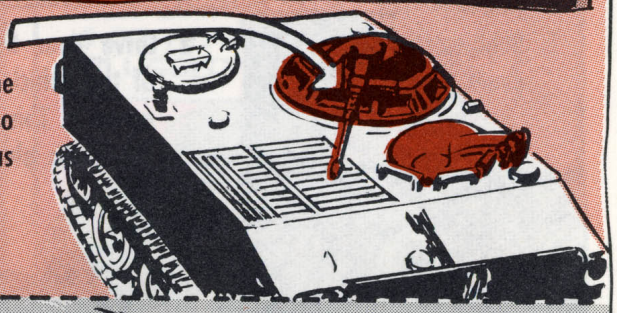
MORE

Before entering the water, check out two things:

1. Tie down the surfboard linkage. The shock of a rapid entrance could jar it loose.

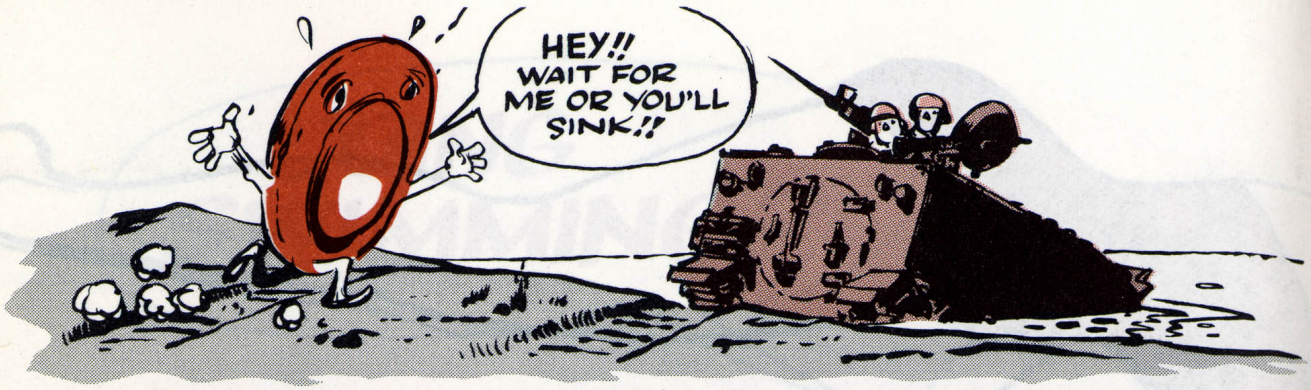


2. Make sure you have the caliber .50 machine gun locked in either the left or right position so the driver can open his hatch . . . in case he has to get out in a hurry.



When you make a fast entry, stand on the throttle until the big splash is over and your M114 gets her nose up in a good swimming position.

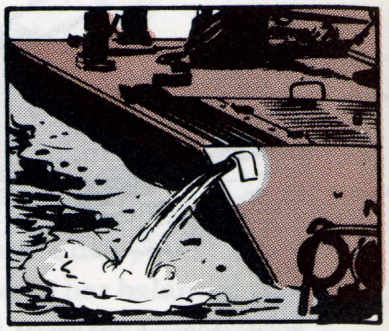
P.S. MORE



DANGER! DANGER! DANGER! DANGER!

DRAIN PLUGS — If you leave out the hull drain plug or one of the access plugs your M114 will sink. See that they're all in place and tight before taking off.

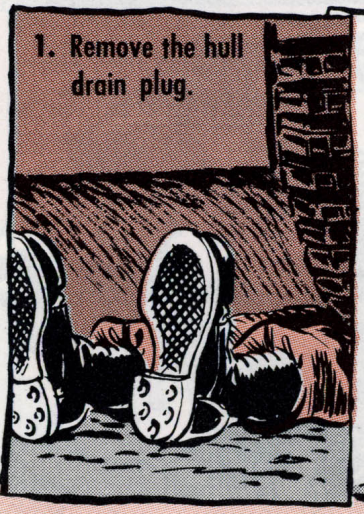
WARNING SPOUT — During all water operations have a crew member watch the bilge pump carefully. If it starts to shoot out a solid stream of water get the vehicle back on land—but fast. This means you've got a bad leak that could sink you. Don't worry . . . if you ship a little water you can have confidence that your bilge pump will handle it.



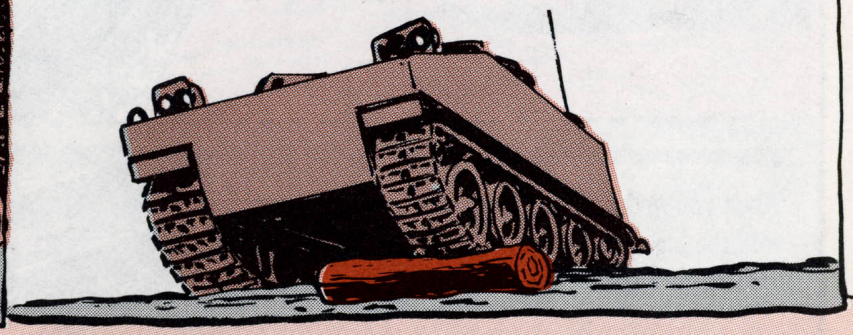
WATER RECOVERY — Recovering an M114 stalled in water is a job for trained recovery people. Regular crew members should do it only in an emergency. Be careful not to tip the vehicle with your weight when trying to attach a winch cable. Winch a water-stalled vehicle from the shore but don't try to tow or push it in the water with another vehicle.

HULL DRAIN — The bilge pump won't get all the water out of your Scout. To drain her completely, after you get out of the water:

1. Remove the hull drain plug.



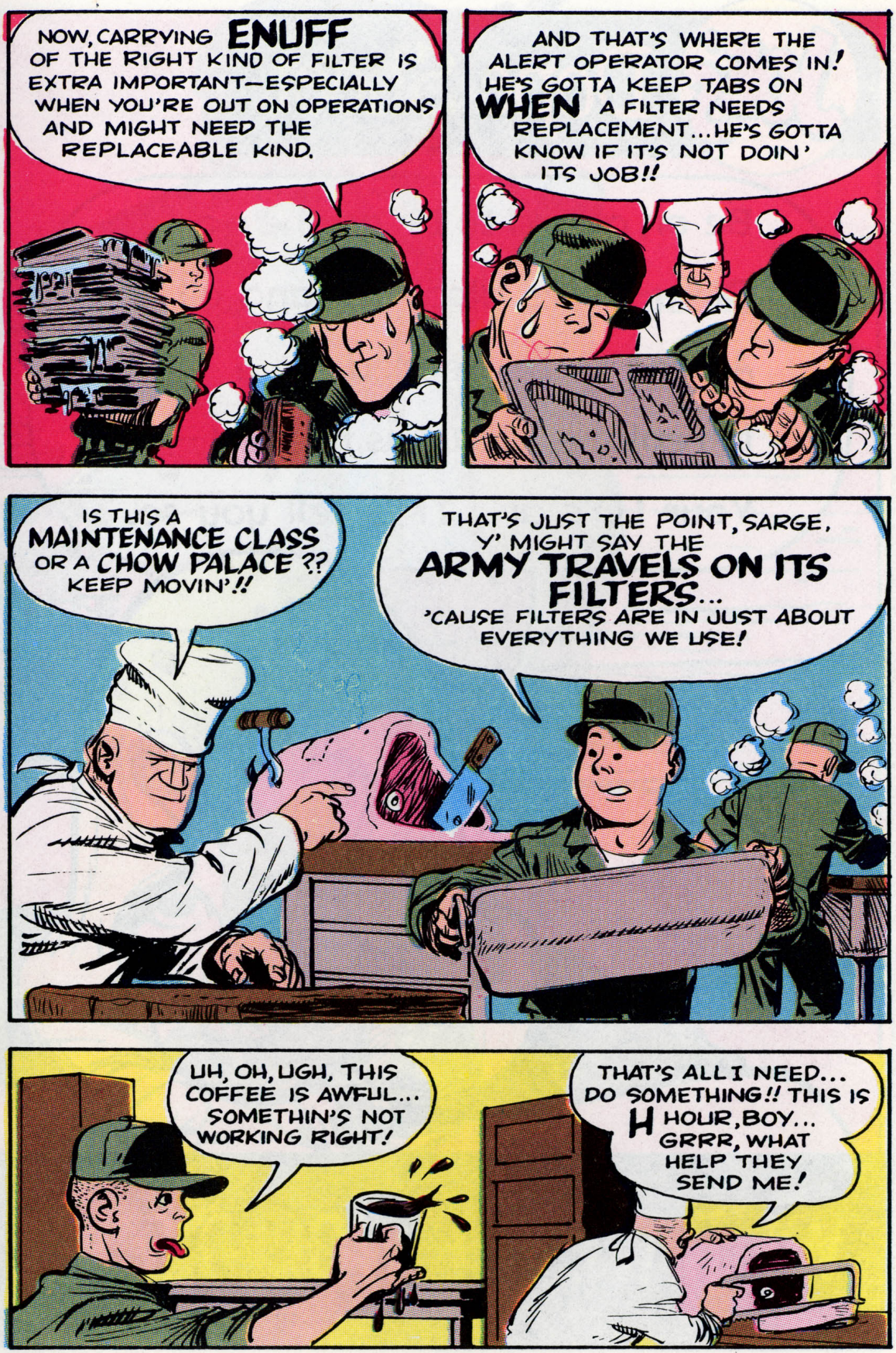
2. Drive your Scout so the front, left, is higher than the rest of the vehicle. Like find a log and drive your front, left, track up on it. This will put the lowest point at the right, rear, where the drain plug is. Don't forget to replace the drain plug.



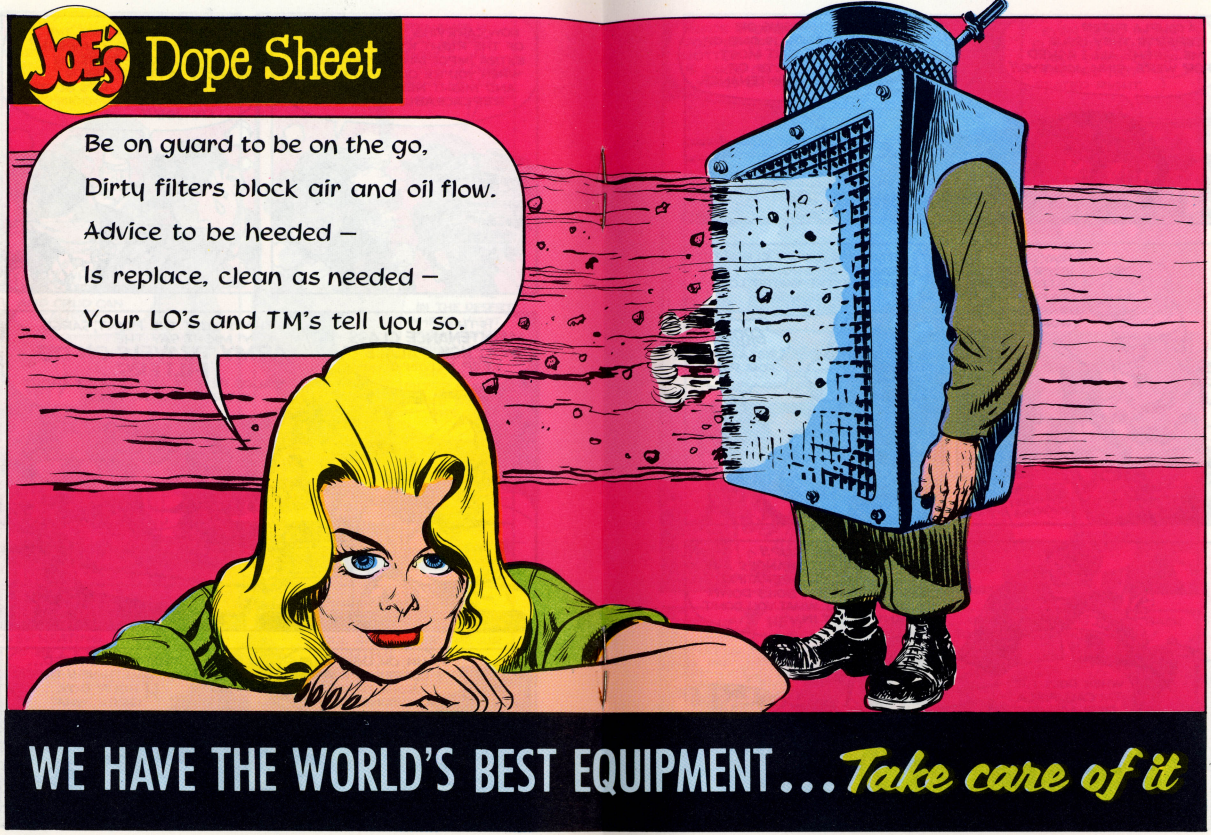
MORE TO COME IN THE NEXT ISSUE . . .

JOE'S DOPE
THE SILENT SENTRY
MY FRIEND, DO YOU REALIZE THE IMPORTANT ROLE PLAYED IN OUR LIFE BY THE HUMBLE FILTER, THAT SILENT SAFEGUARD OF ALL OPERATING MACHINERY?? WHY EVEN MISSILE COMPONENTS HAVE 'EM.
SO DO CIGARETTES!
!?
THE ENEMY IS DIRT... THE AIR'S FULL OF IT AND IT'S THE JOB OF A FILTER TO SIT THERE AND KEEP CRUD FROM FOULIN' UP EQUIPMENT'S INNARDS!
THAT GOES FOR OIL TOO... KEEPING CLEAN OIL AND FUEL FLOWING THRU THE SYSTEM IS CRITICAL!! NOW TAKE THIS PLUGGED UP DRAIN PIPE...THE SINK STRAINER WAS LEFT OUT!!

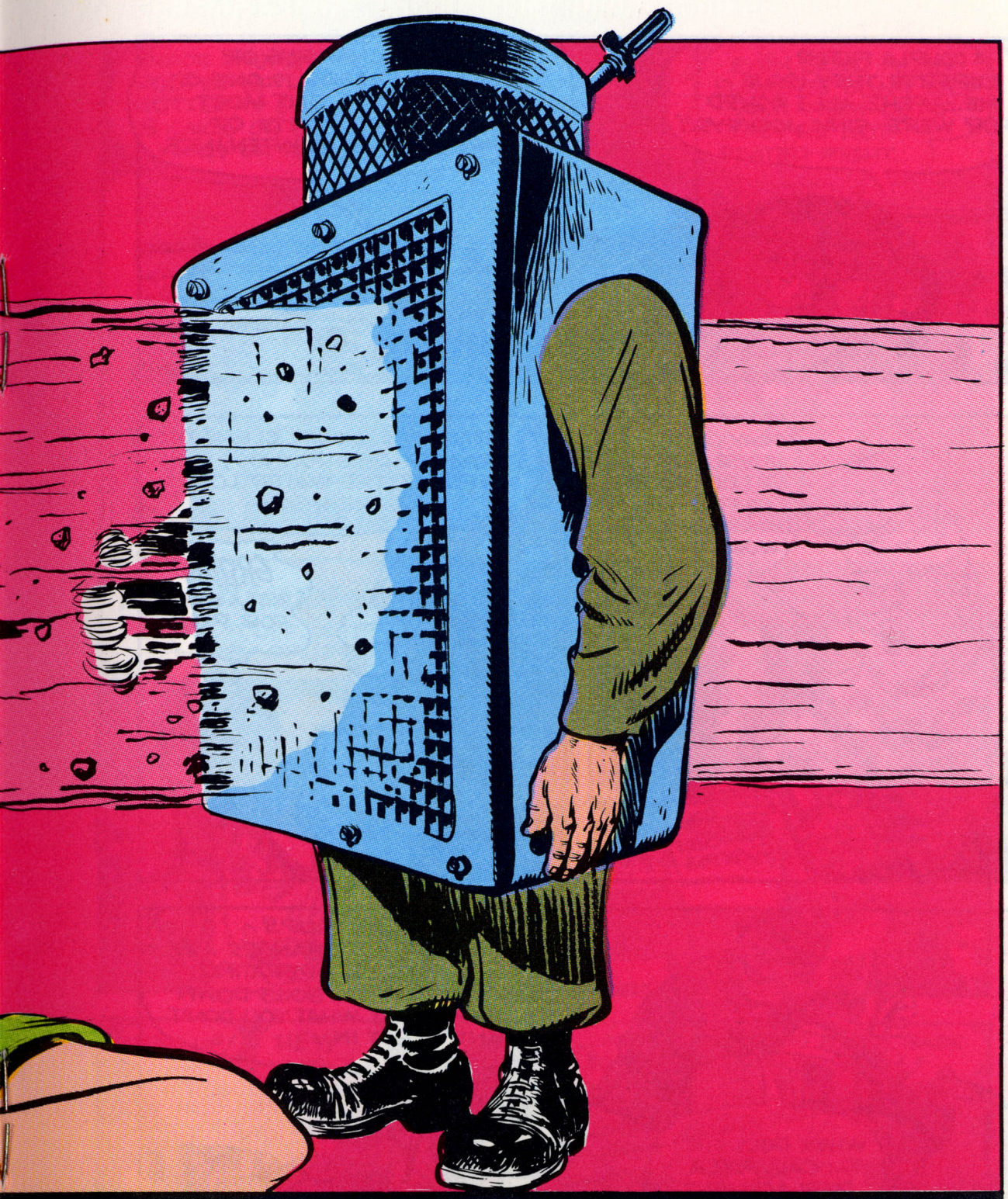
FILTERS CAN'T WORK IF THEY'RE NOT THERE... AND THEY WON'T WORK IF THEY'RE NOT CLEANED AND REPLACED REGULARLY.
UGH! WHAT A MESS DIRT AND CRUD CAN CAUSE!!
THIS SIMPLE MAINTENANCE IS ESPECIALLY CRITICAL UNDER "UNUSUAL CONDITIONS"... IN SUCH CASES, YOU GOTTA CHECK MORE OFTEN.
I DIG YUH... LIKE IN THE DESERT WHERE Y'GOT LOTSA DUST- THEN Y'WATCH RADIO AND MISSILE FILTER SYSTEMS LIKE MAD ...EH?
MAN, SOME ELECTRONIC GEAR PUTS OUT LOTSA HEAT... SO, WHILST BLOWERS KEEP 'EM FROM OVERHEATING... THE AIR HAS TO BE CLEAN!
YOUR LOGIC IS FLAWLESS... AFTER ALL, AIR CONDITIONING SYSTEMS FOR COMMUNICATIONS COOL AND FILTER THE AIR ...BOTH!!


NOW, CARRYING ENUFF OF THE RIGHT KIND OF FILTER IS EXTRA IMPORTANT—ESPECIALLY WHEN YOU'RE OUT ON OPERATIONS AND MIGHT NEED THE REPLACEABLE KIND.
AND THAT'S WHERE THE ALERT OPERATOR COMES IN! HE'S GOTTA KEEP TABS ON WHEN A FILTER NEEDS REPLACEMENT... HE'S GOTTA KNOW IF IT'S NOT DOIN' ITS JOB!!
IS THIS A MAINTENANCE CLASS OR A CHOW PALACE ?? KEEP MOVIN'!!
THAT'S JUST THE POINT, SARGE, Y' MIGHT SAY THE ARMY TRAVELS ON ITS FILTERS... 'CAUSE FILTERS ARE IN JUST ABOUT EVERYTHING WE USE!
UH, OH, UGH, THIS COFFEE IS AWFUL... SOMETHIN'S NOT WORKING RIGHT!
THAT'S ALL I NEED... DO SOMETHING!! THIS IS H HOUR, BOY... GRRR, WHAT HELP THEY SEND ME!

JOE'S Dope Sheet
Be on guard to be on the go,
Dirty filters block air and oil flow.
Advice to be heeded –
Is replace, clean as needed –
Your LO's and TM's tell you so.
WE HAVE THE WORLD'S BEST EQ
IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BU

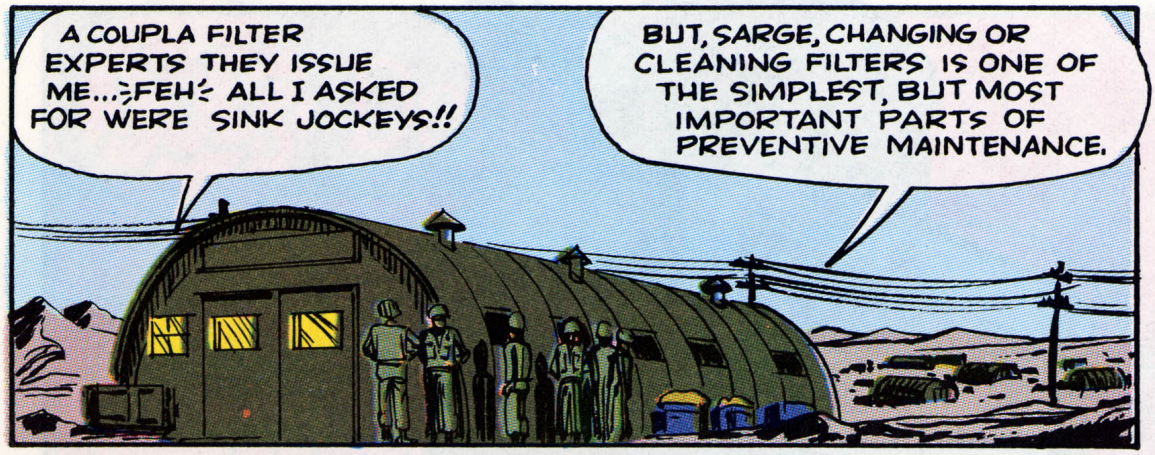


IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.



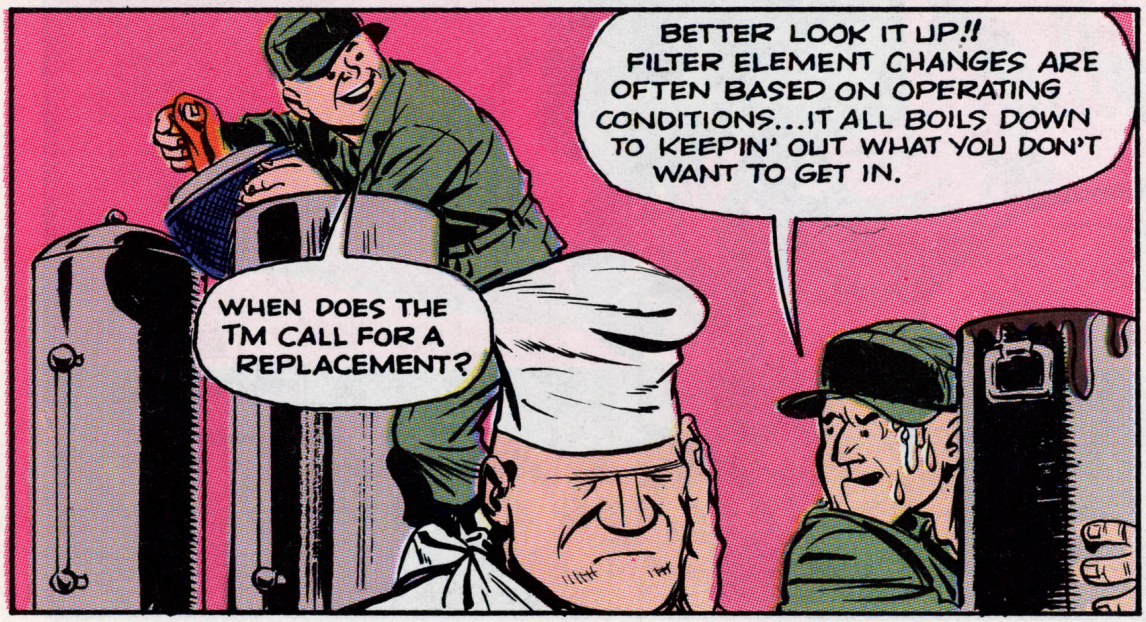
QUIPMENT . . . *Take care of it*

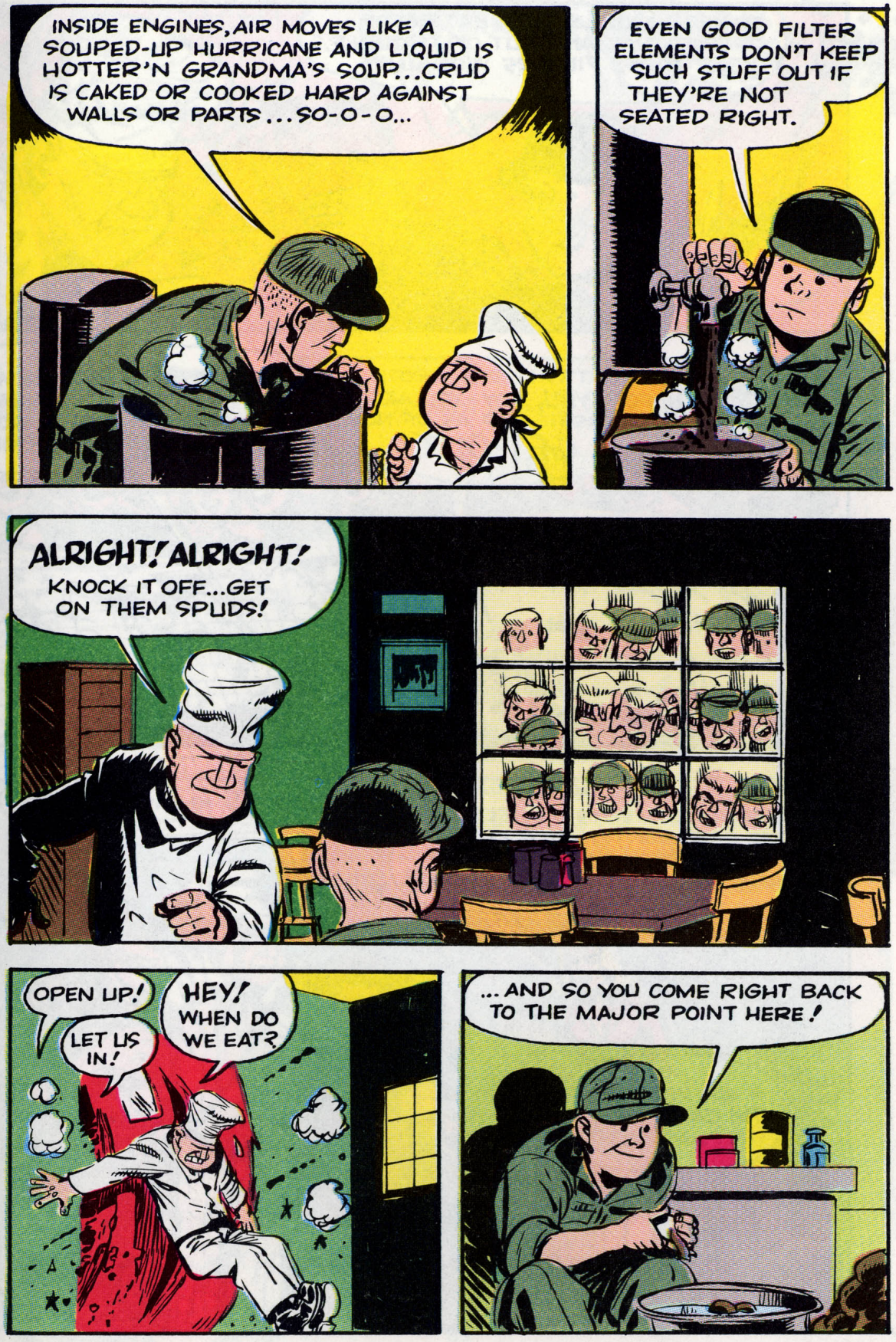
ULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.


A COUPLA FILTER EXPERTS THEY ISSUE ME...:FEH!: ALL I ASKED FOR WERE SINK JOCKEYS!!
BUT, SARGE, CHANGING OR CLEANING FILTERS IS ONE OF THE SIMPLEST, BUT MOST IMPORTANT PARTS OF PREVENTIVE MAINTENANCE.

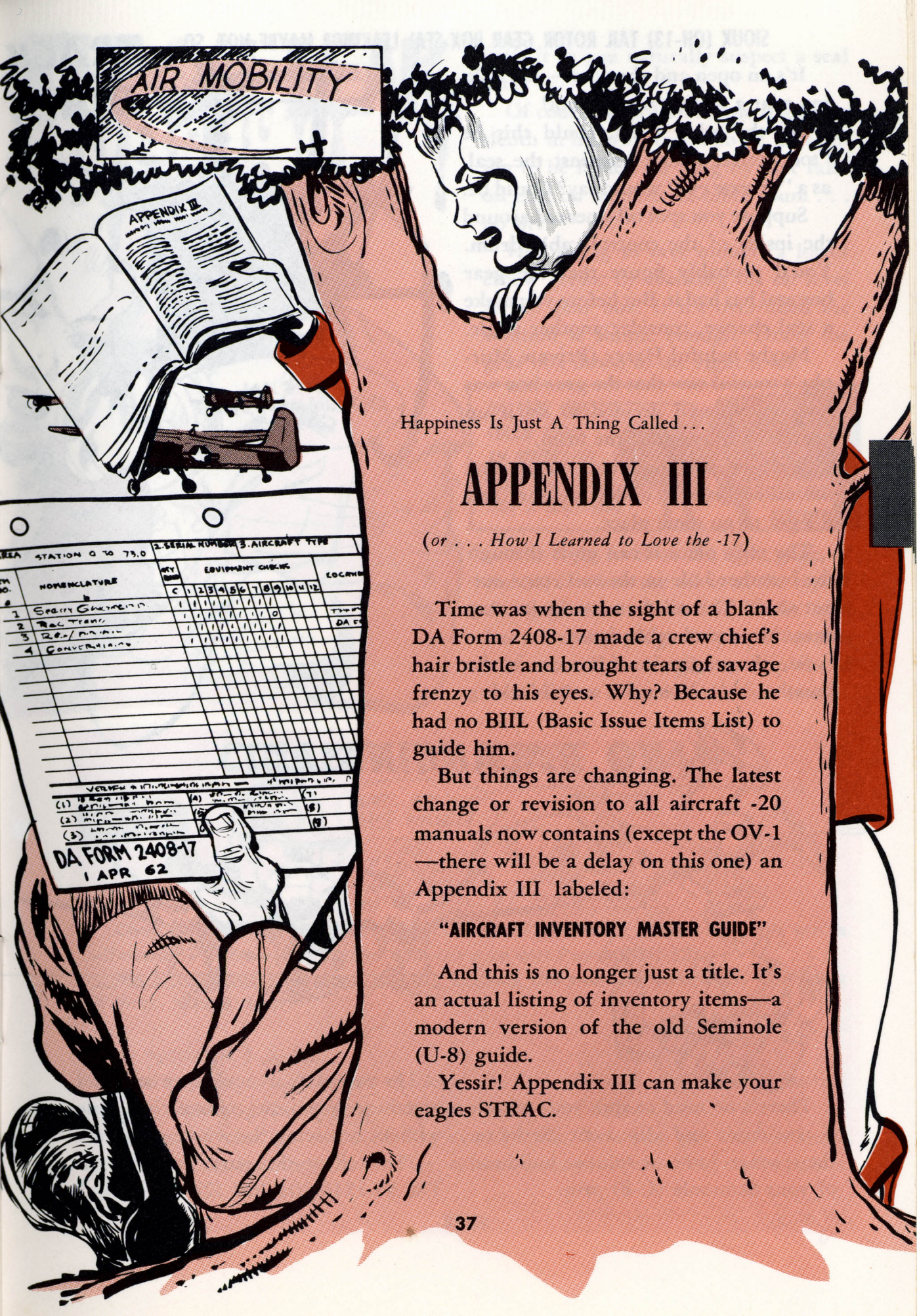
OKAY, OKAY, IF Y'R NOT GETTIN' GOOD COFFEE-THE URNS AIN'T WORKIN'!
GOURMET COOKING

DRAIN THE WATER, CLEAN THE STRAINER OF GROUNDS, REPLACE THE WATER, LOAD AND RE-HEAT!
GROAN WOT A TIME FOR PM!!


BETTER LOOK IT UP!! FILTER ELEMENT CHANGES ARE OFTEN BASED ON OPERATING CONDITIONS...IT ALL BOILS DOWN TO KEEPIN' OUT WHAT YOU DON'T WANT TO GET IN.
WHEN DOES THE TM CALL FOR A REPLACEMENT?


INSIDE ENGINES, AIR MOVES LIKE A SOUPED-UP HURRICANE AND LIQUID IS HOTTER'N GRANDMA'S SOUP...CRUD IS CAKED OR COOKED HARD AGAINST WALLS OR PARTS...SO-O-O...
EVEN GOOD FILTER ELEMENTS DON'T KEEP SUCH STUFF OUT IF THEY'RE NOT SEATED RIGHT.
ALRIGHT! ALRIGHT! KNOCK IT OFF...GET ON THEM SPUDS!
OPEN UP!
LET US IN!
HEY! WHEN DO WE EAT?
...AND SO YOU COME RIGHT BACK TO THE MAJOR POINT HERE!

TO KEEP MOBILE... COMBAT READY, OPERATIONAL AND OUT OF TROUBLE... KEEP THOSE FILTERS WORKIN'!
THAT'S ALL SHE WROTE FOR YOU, BOY - YOU ARE REASSIGNED AS OF NOW GET-OUT!
BEFORE I GO, SARGE, SEE YOUR EQUIPMENT'S PART MANUAL - FOR REPLACEMENT OF FUEL AND OIL FILTER ELEMENTS.
I NEED A COUPLE OF REPLACEMENTS TO HELP ME IN A MAINTENANCE CLASS ON FILTERS... YOU HAVE ANYONE WHO KNOWS FILTERS?
BOY, DO WE KNOW FILTERS!



Happiness Is Just A Thing Called . . .

APPENDIX III

(or . . . How I Learned to Love the -17)

Time was when the sight of a blank DA Form 2408-17 made a crew chief's hair bristle and brought tears of savage frenzy to his eyes. Why? Because he had no BIIL (Basic Issue Items List) to guide him.

But things are changing. The latest change or revision to all aircraft -20 manuals now contains (except the OV-1 —there will be a delay on this one) an Appendix III labeled:

"AIRCRAFT INVENTORY MASTER GUIDE"

And this is no longer just a title. It's an actual listing of inventory items—a modern version of the old Seminole (U-8) guide.

Yessir! Appendix III can make your eagles STRAC.

SIOUX (OH-13) TAIL ROTOR GEAR BOX SEAL LEAKING? MAYBE NOT, SO . . . TRACK DOWN

It's an open and shut case—oil leaking near a seal means it's shot!

On the other hand, could this be "too perfect a case" against the seal, as a "private eye" would say? Could be.

Suppose you spot oil smeared around the inside of the control cable drum. You'd probably figure that the gear box seal has had it. But before you make a seal change, consider another angle.

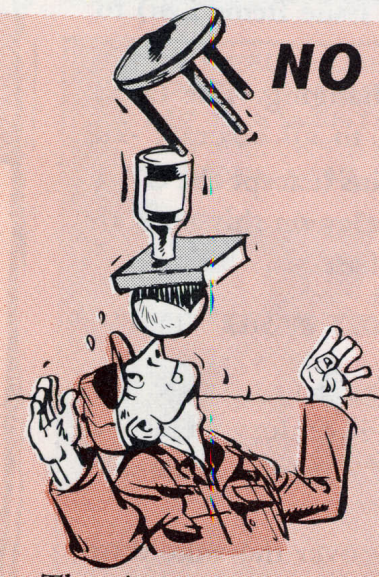
Maybe helpful Harry (Private Murphy's cousin) saw that the gear box was low on oil, and decided to do it up brown by filling it to the brim.

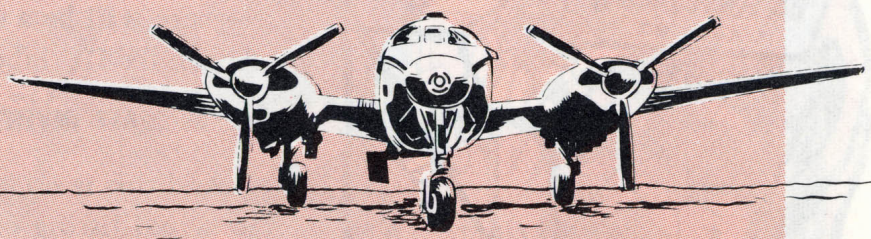
Well—a full gear box means that the oil in there is under pressure and it's got to go some place.

The only place it can go is through the breather hole in the tail rotor output shaft. The oil then works its way onto the control cable drum.

So, the angle in this case is the breather hole. You can't see oil leaking

NO BALANCING ACT





There's no need to spin your wheels if you don't find alinement marks on the spinner dome or spinner bulkhead of your Seminole (U-8) prop.

The two parts are no longer balanced together, so you can replace either one without replacing the whole assembly.

That's how the parts stack up in TM 55-1510-201-20P (24 Feb 64).

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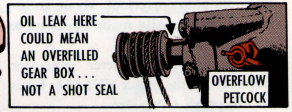
The only place it can go is through the breather hole in the tail rotor output shaft. The oil then works its way onto the control cable drum.

So, the angle in this case is the breather hole. You can't see oil leaking from it so you naturally suspect a seal leak.

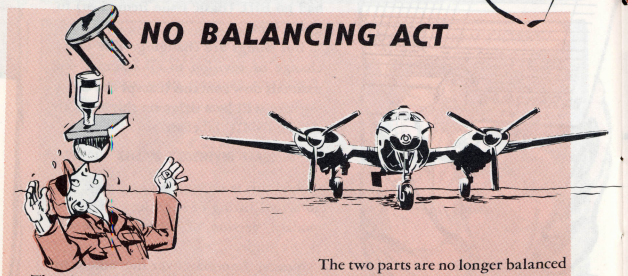
Of course a bird mechanic is a super sleuth in his own right. So he isn't going to be fooled for long by that false oil clue on the control cable drum . . . no sir!

He's going to save himself a lot of elbow grease by checking the oil level in the gear box. If it's over-filled the solution is simple enough. Drain the gear box down to the right level.



The right level on the sight gage, of course, is when the oil is at the top of the gage (not above it). If the bird has a leveling plug, the proper level is when the oil just begins to drip out of the overflow drain cock . . . sure 'nough.

NO BALANCING ACT



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COLLECTIVE FREE PLAY

Dear Windy,

Chap 2, Sec VII, Para 7-16a(1) of TM 55-1520-206-20 (5 Nov 62) says we're allowed ¾-in free-play in the collective on our Raven (OH-23).

My buddy says this check doesn't include the rod-end bearings, but I say it does. Who's right?

SP 5 J. S. S.

Dear Specialist J. S. S.,

You're right as rain about checking the free-play over the whole collective system, including the rod-end bearings.

Remember that no two birds are exactly alike. You may get wear in a collective bracket bushing, the bracket, or the bearing . . . depending on the nature of the beast.

Windy

from it so you naturally suspect a seal leak.

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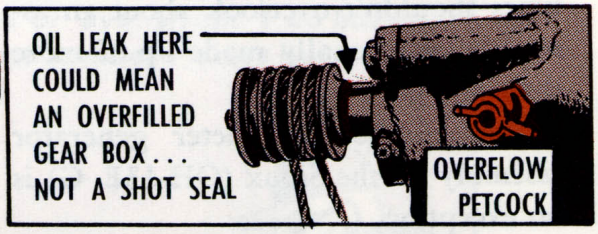

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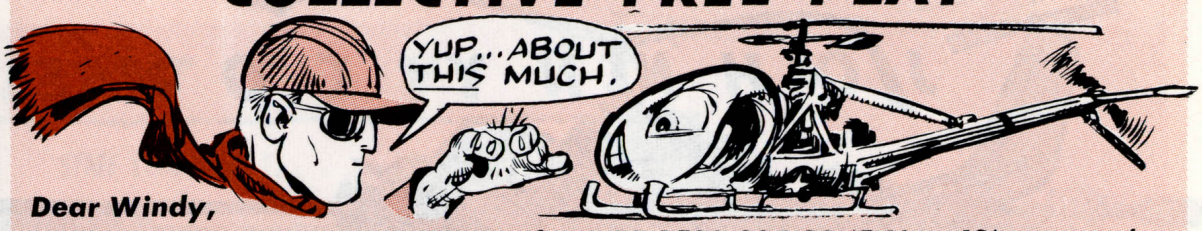

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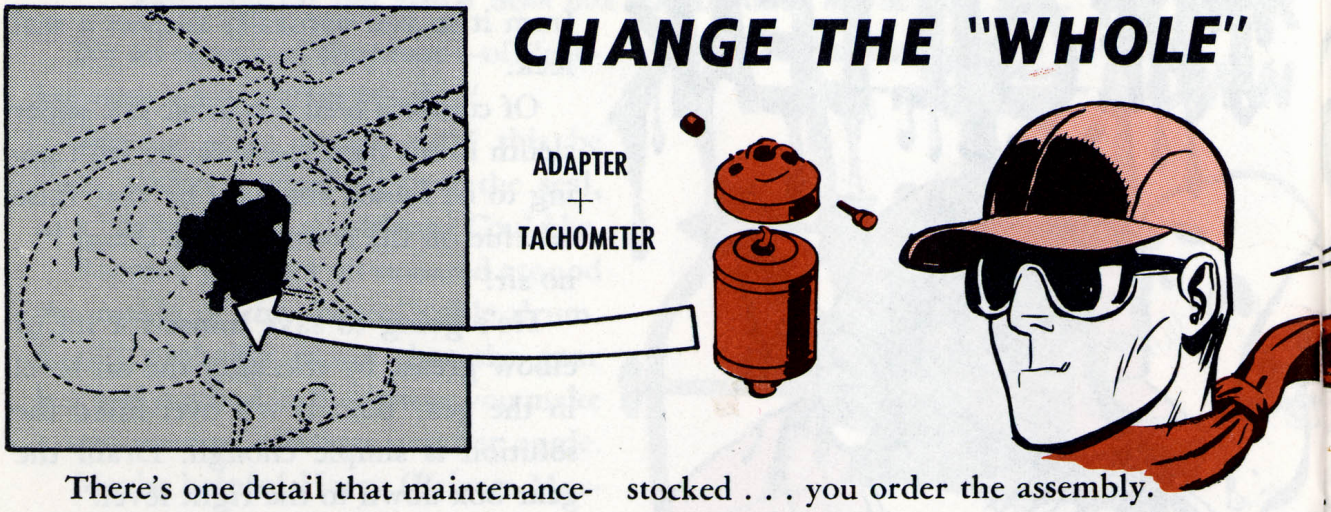
CHANGE THE "WHOLE"



There's one detail that maintenance-types shouldn't overlook about an assembly. It's usually made up of more than one part.

The engine tachometer generator assembly on the Sioux (OH-13E, G) is no exception.

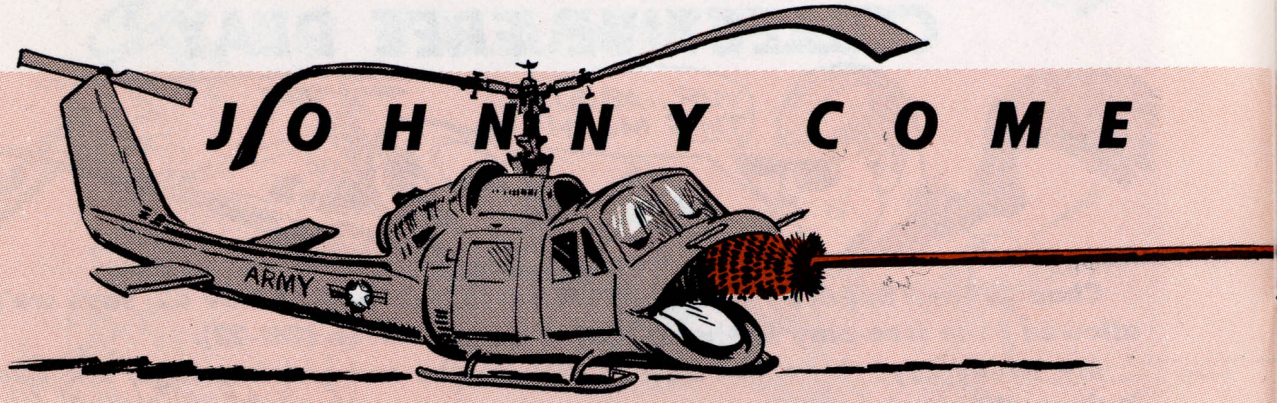
TM 55-1520-204-20P (10 Dec 63) lists the assembly as FSN 1680-591-0629 on Page 2-123. One detail of the assembly is the tachometer generator, FSN 6680-566-9698, with a source code of "P." The code is being changed to "X1" which means the detail isn't stocked . . . you order the assembly.

The other detail part of the assembly is engine tachometer adapter, FSN 1560-121-3864. It's a general support item and is listed on Page 2-161 of TM 55-1520-204-35P (10 Dec 63).

So what's all the hubbub about, you may ask?

Well, it seems that assemblies are being turned in without the adapter. And no self-respecting tachometer generator can rightly be called an assembly unless both the tachometer and adapter are included.

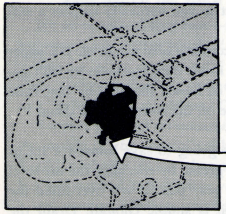
JOHNNY COME

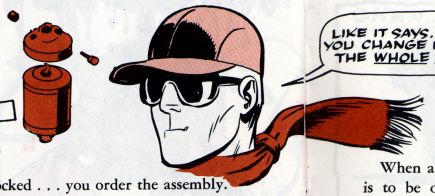


Yep, things're looking up for your Iroquois (UH-1B). Now you can get a real honest-to-goodness bore brush set for your Huey's 2.75-in rocket launcher . . . in place of the sanitary brush (FSN 7920-234-9317) listed in TM 9-1055-217-12P (Apr 64).

The new tool's called helicopter armament subsystem bore brush set, XM3, and it comes in three parts: core and nut assembly (10602118-3), FSN 1055-227-0778; staff (10602118-1), FSN 1055-227-0637; and brush (10602118-2), FSN 1055-227-0774.

CHANGE THE "WHOLE" ASSEMBLY





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So what's all the hubbub about, you may ask?

Well, it seems that assemblies are being turned in without the adapter. And no self-respecting tachometer generator can rightly be called an assembly unless both the tachometer and adapter are included.

When an assembly is to be overhauled, the depot shouldn't have to buy a lot of new adapters when there may be perfectly good ones in your outfit, now should they? 'Course not.

So, the next time you change the tachometer generator be sure to change the "whole" assembly, sure 'nuff.

FUEL FILTER COMING

Dear Windy,

The organizational maintenance pub on our Mohawk (OV-1) says to put in a new engine fuel control servo paper filter every Periodic.

I searched the parts pub from one end to the other, however, and haven't been able to come up with a part that even looks like the filter.

A case of eye strain I do have—a good part number I don't have. What gives?

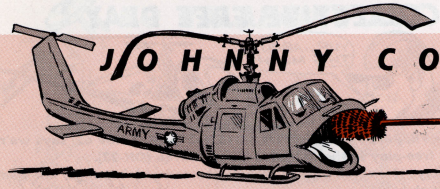
SP 4 R. E. T.

Dear Specialist R. E. T.,

Rest your eyeballs over a glass of filtered three-point-two. Change 1 to TM 55-1510-204-20P gives you Filter, P/N 28876, FSN 2915-796-7083. That's the baby you want.

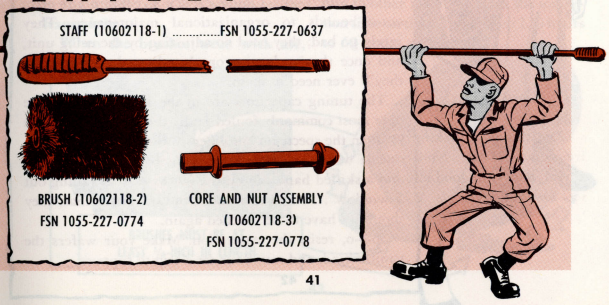
Windy

JOHNNY COME LATELY

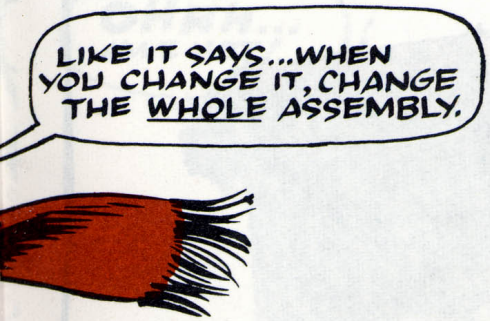


Yep, things're looking up for your Iroquois (UH-1B). Now you can get a real honest-to-goodness bore brush set for your Huey's 2.75-in rocket launcher . . . in place of the sanitary brush (FSN 7920-234-9317) listed in TM 9-1055-217-12P (Apr 64).

The new tool's called helicopter armament subsystem bore brush set, XM3, and it comes in three parts: core and nut assembly (10602118-3), FSN 1055-227-0778; staff (10602118-1), FSN 1055-227-0637; and brush (10602118-2), FSN 1055-227-0774.



ASSEMBLY



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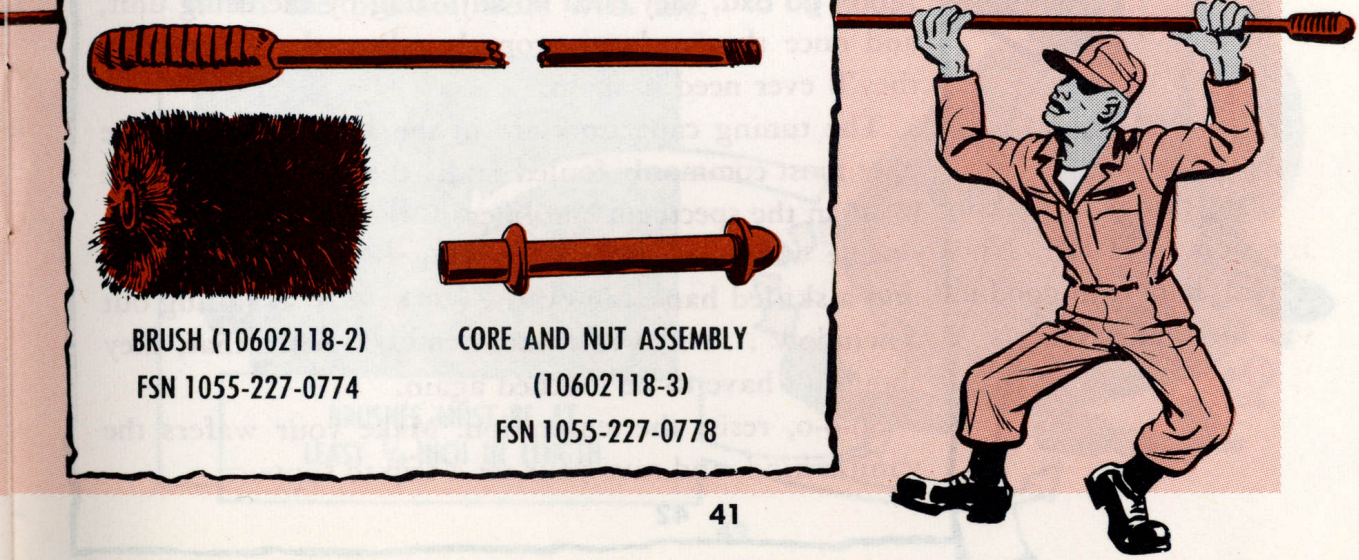
Windy

LATELY

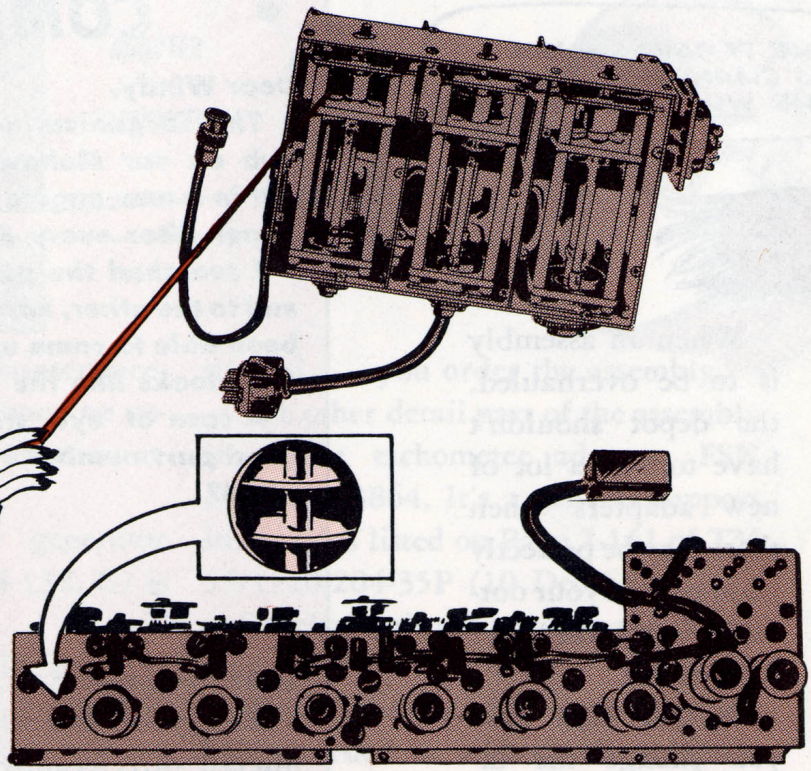
STAFF (10602118-1) .....FSN 1055-227-0637



BRUSH (10602118-2)
FSN 1055-227-0774

CORE AND NUT ASSEMBLY
(10602118-3)
FSN 1055-227-0778

NO WIGGLIN' THE WAFER, PLEASE



Wigglin' the tuning wafers of your RT-178 amplifiers won't get your AN/ARC-27 radio set back in business . . . 999 times out of a thousand. Same goes for the RT-349 of the AN/ARC-55.

What's more likely is that a wafer wiggle will knock the set out of track. So, you can see that wigglin' for fun or curiosity is downright foolish.

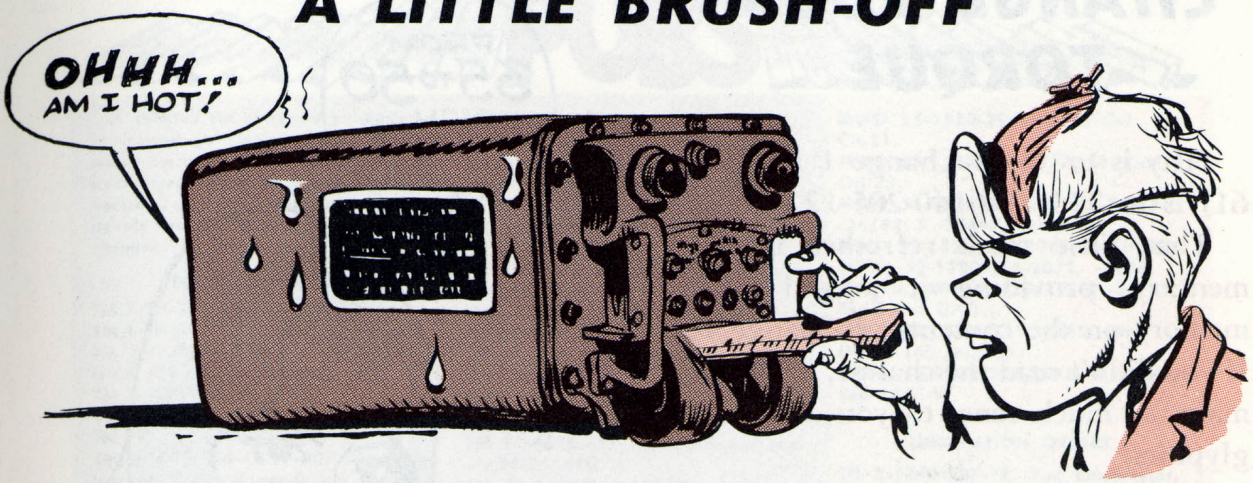
The wafers—or tuning capacitor rotor plates—are out-of-bounds to organizational maintenance. They rarely go bad; they need no adjusting by the using unit, and once they've been properly adjusted, it's unlikely they'll ever need it again.

The tuning capacitors are in the amplifiers, and the ones most commonly fouled up by the inexperienced are those in the spectrum amplifier.

The wafers, or plates, are adjusted by your support, and a skilled hand can do the job as easy as falling out a window . . . and just about as fast. After that, they shouldn't have to be touched again.

So-o-o, resist the temptation. Make your wafers the vanilla kind, and save your set a trip to support.

A LITTLE BRUSH-OFF



Next time you give your AN/ARC-27 and -55 blower motor the brush-off, you might be brushing off the prospect of good communications.

Like, you could be putting your radio in a spot that'll make it sweat, but good.

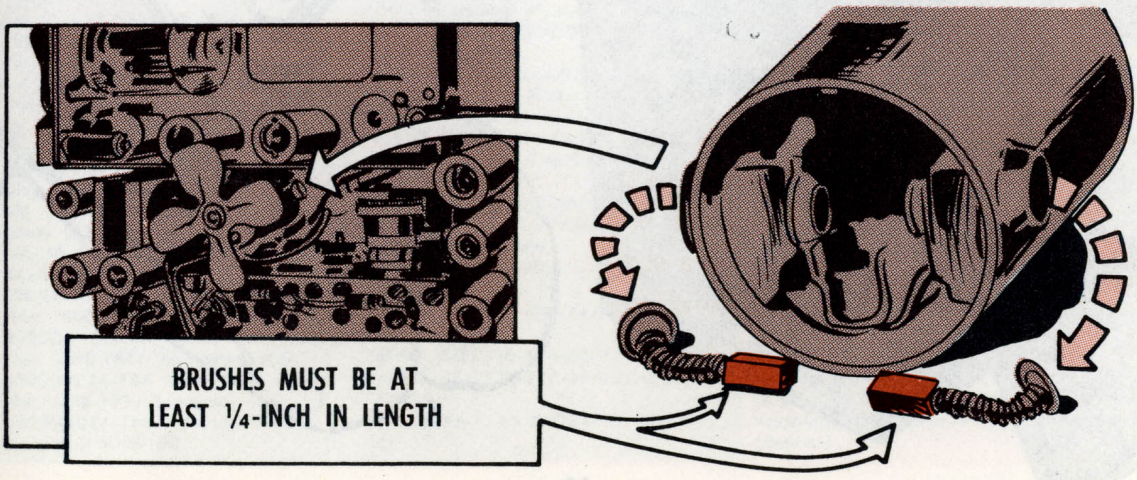
F'rinstance those blower motor brushes wear down, and if you miss checking them during the routine, organizational 60-hour check of the radio sets, chances are they won't make it until the next inspection.

And . . . your blower motor may suddenly lack good electrical contact right in the middle of a hot session on the transmitter.

When the brushes wear with use, they naturally keep less tension on the springs which push them against the motor's commutator. Result: Poor electrical contact—if any.

So inspect the brushes to be sure they're at least ¼ inch long. If they're shorter, replace them. They'll never last until the next inspection.

Organizational maintenance calls for a check of the brushes of the B-1501 internal blower motors of each set and the B-1401 external motor of the ARC-27 after 60 hours of operation. So follow the word on page 6, Change 1 to TM 11-5821-225-24 (Jan 60). In addition to other info, it reduces the inspection time on the brushes from 120 hours to 60 hours of operation.



CHANGE YOUR TORQUE

Fifty is to 35 as Change 1 (19 Sep 61) is to TM 11-6140-205-12.

That little math refresher is elementary, providing it jogged your memory on the contents of Change 1. If you didn't read the change, it should make as much sense to you as hieroglyphics.

Solution: The change corrects para 19e(3), page 16 of the TM on the BB-433/A battery to read "50 inch-pounds" rather than 35 inch-pounds. Like, when you're putting the torque wrench to the battery's terminal screws, look for a torque indication of at least 50 inch-pounds.

The "35 inch-pounds" called for in the TM isn't enough, and, naturally, it could lead to problems.

A selected list of recent publications of interest to Organizational Maintenance Personnel. This is a list compiled from recent Adjutant General's Distribution Center Bulletins. For complete details see DA Pam 310-4 with latest changes.

TECHNICAL MANUALS

TM 1-1H-34A-596, C2, Oct CH-34.
TM 1-1H-34A-1045, C2, Oct CH-34.
TM 1-1L-20A-1004, Jul and C1, Mar U-6A (59 and 61 Reprints).
TM 1-42B1-1-1, May Fuels (58 Reprint).
TM 1-215, Sep Al Flying.
TM 3-1040-224-12 & -20P, Oct Compressor, Recip, Power-Driven Flame Thrower, 3½ CFM, AN-M4.
TM 3-1040-225-20P, Sep Compressor, Recip, (Davey Mdl B51RCDV).
TM 3-4520-200-12, Sep Heater, Water, Oil, Ml.
TM 5-3805-224-25P, Sep Scraper, Earthmoving, Towed (Murray Mdl AR 775).
TM 5-3810-209-20P, Sep Crane-Shovel, Truck Mtd, 20-Ton Cap (Gar Wood Mdl M-20-A).
TM 5-4110-203-25P, Sep Refrigeration Unit, Mech Panel Type, Gas.
TM 5-4320-215-20P, Sep Pump, Centrifugal: Fresh Water; Carver Mdl K400S.
TM 5-4610-203-20P, Aug Water Purification Unit (Met-Pro Mdl 3000-2700).
TM 5-5420-203-15, Oct Bridge, Armd Veh Launched (All Makes and Mdls).
TM 9-1055-217-20, C1, Sep XM3.
TM 9-1410-250-12P/2 & -20P/7, Oct Nike-Herc, Nike-Herc (Imp), Msl Oper & Maint.
TM 9-2330-267-14, Oct Trailer, Tank: Water, M149.
TM 9-1450-376-12P/2, Oct Pershing, Grd Hdlg, Spt & Svc Equip.
TM 9-4935-306-12P/7, Sep Sergeant, Test Equip (Ord).
TM 9-4940-250-12P/1 -12P/2, Sep Nike-Ajax, Nike-Herc, Test Equip (Ord).
TM 9-4940-251-12P/1 & -12P/2, Sep Nike-Ajax, Nike-Herc, Test Equip (Ord).
TM 9-4940-252-12P, Oct Nike-Ajax, Nike-Herc, Nike-Herc (Imp), Test Equip (Ord).
TM 10-500-87, Oct Airdrop of Supplies and Equip, Atomic Wpn Sys.
TM 10-1670-201-25, Sep Maint chutes and Other Airdrop Equip.
TM 10-1670-220-23, Oct Basket, Dlvy, Rocket Equip XM1.
TM 10-1670-219-23P, Feb Troop Chute (63 Reprint).
TM 10-1670-225-23P, Aug Chest Chute (63 Reprint).
TM 10-3930-235-20, Oct Truck, Lift, Fork, 4000 Lb Cap: Towmotor Mdl 462SG4024-100 (Solid Tire) Army Mdl MHE-191; Towmotor Mdl 462SG4024-144 (Solid Tire) Army Mdl MHE-191; Towmotor Mdl 502PG4024-144 (Pneum Tire) Army Mdl MHE-190.
TM 10-3930-237-20, Sep Truck, Lift, Fork, Gas, 2000-Pound Cap.
TM 10-3930-238-10 & -20, Sep Truck, Lift, Fork, Gas; Army Mdl MHE-193, Baker Mdl FJF-060.
TM 11-5805-212-20P, Sep Converter, Tel Signal TA-187/U.
TM 11-5805-282-20P, Sep Telephone Control AN/MTC-1.
TM 11-5820-402-20P, Aug Antenna AT-912/VRC.
TM 11-5820-515-20P, Oct Radio Set AN/TRC-91.
TM 11-6625-472-20P, Oct R. F. Signal Generator Set AN/URM-26B.
TM 11-6625-617-12, Sep Power Supply PP-3514/U.
TM 11-6940-209-20P, Sep Radar Trainer AN/ULT-T5.
TM 55-404, Aug Airplane Maint.
TM 55-1100-202-12-2, C1, Sep CH-37.
TM 55-1100-204-14-1, Oct U-1A.
TM 55-1100-204-15-1, Oct UH-1.
TM 55-1100-204-15-2, Oct CH-37.
TM 55-1100-204-15-3, Oct CV-2.
TM 55-1510-202-10, C1, Sep O-1.
TM 55-1510-202-20, C2, Sep O-1.
TM 55-1510-204-10CL, C1, Sep OV-1.
TM 55-1510-205-20P, Aug U-1A.
TM 55-1510-206-10, C9, Oct CV-2.
TM 55-1520-201-10, C2, Nov UH-19.
TM 55-1520-202-10CL, C1, Sep CH-34.
TM 55-1520-205-20P, C2, Sep CH-21.
TM 55-1520-206-20, C5, & -20P, Sep OH-23.
TM 55-1520-208-12-1, Sep UH-1.
TM 55-1730-204-12, Jun MA-1 GSU (63 Reprint).
TM 55-2320-235-10-1, Oct Transportability Guidance: Trk, 2½ Ton M35.
TM 55-2350-210-10-1, Oct Transportability Guidance: Tk, M60A1.
TM 55-6670-200-15, Sep WT-BAL.
TM 55-6930-201-20P, Mar 2B3 Trainer.

MODIFICATION WORK ORDERS

MWO 9-2300-224-20/14, Sep XM106 Carrier, Personnel Full Tracked: Armored, Flame Thrower, Fuze Rack Door Hinge Mountings.
MWO 9-2300-269-20, Sep Hawk, Oper & Maint.
MWO 9-2320-211-20/7, Oct Wrecker: 5-Ton, M246: Weld Limiting Bead on Front Outriggers.
MWO 9-2350-215-20/21, Sep Tank, M60 Install of Brs to Strengthen Hand Trav Sys.
MWO 9-2350-215-20/22, Oct Tank, M60 and M60A1; Install Clp on Gun M68 Firing Pin Retr.
MWO 55-1510-202-34/9, -50/1, C1 Oct O-1.
MWO 55-1510-204-34/47, Oct OV-1.
MWO 55-1510-206-20/1, Oct CV-2.
MWO 55-1520-202-34/32, Oct CH-34.
MWO 55-1520-203-34/12, C1, Sep CH-37.
MWO 55-1520-205-34/17, Oct CH-21.
MWO 55-1520-206-34/7, C1, Oct OH-23.
MWO 55-1520-209-20/27, -20-/31, -34/92, & -34/97, Oct CH-47.
MWO 55-1520-210-20/4, Jul UH-1D.
MWO 55-1520-211-20/2, -20/6, -20/10, -20/14, -20/19, & -34/21, Sep & Oct, UH-1.
MWO 55-1520-211-20/12, Oct UH-1B (63 Reprint).
MWO 55-1930-205-30/8, & -40/3, Sep LARC-V.

LUBRICATION ORDERS

LO 3-1040-225-12, Aug Compressor, Recip (Davey Mdl B51RCDV).
LO 9-1000-209-12, Sep Davy Crockett.
LO 9-2320-205-12, Oct Carrier Amph M76.
LO 9-2350-215-12, C1, Sep M60 Tank.
LO 10-3930-235-20, Oct Truck, Lift, Fork, Gas.
LO 10-3930-408-20, Aug Tractor, Wheeled, Whse, Gas.

SUPPLY CATALOGS

SC 3431-93-CL-EO2, Sep Welding Set, Arc, Inert Gas Shielded.
SC 4933-95-CL-AO8, Oct Tool Kit, Small Arms Repairman: Lt Wt (4933-672-2612).
SC 5420-93-CL-E36, Sep Trng Set, Fltg Bridge: For All Army Floating Bridges.
SC 5420-93-CL-E38, Sep Bridge Erection Set.
SC 5420-93-CL-E41, Sep Bridge Fixed.
SC 5420-93-CL-E46, Sep Bridge, Floating: Steel.
SC 6675-93-CL-EO4, Sep Drafting Equip Set.

TECHNICAL BULLETINS

TB 34-9-175, Sep Auto Flt Contr Systems.
TB 34-9-180, Oct Towing Attachment on Aircraft.
TB 55-1510-201-20/7, Oct U-8.
TB 55-1510-203-20/2, Sep U-6.
TB 55-1520-205-34/8, Nov CH-21.
TB 55-1520-216-34/1, Sep OH-23.
TB 55-2810-207-20/1, Sep OV-1.
TB 55-2900-200-20/1, Sep O-1, U-8, OH-13, OH-23.

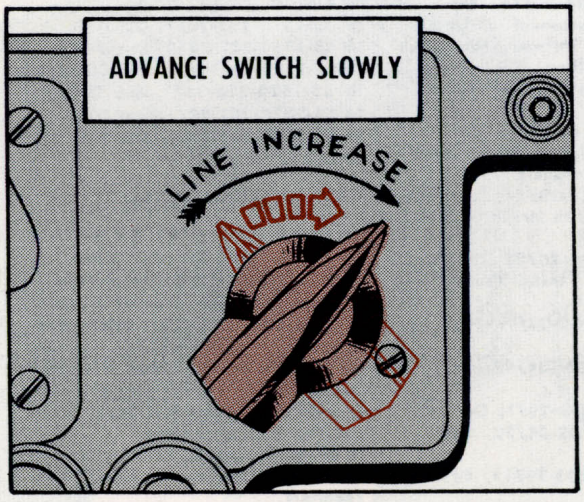
MISCELLANEOUS

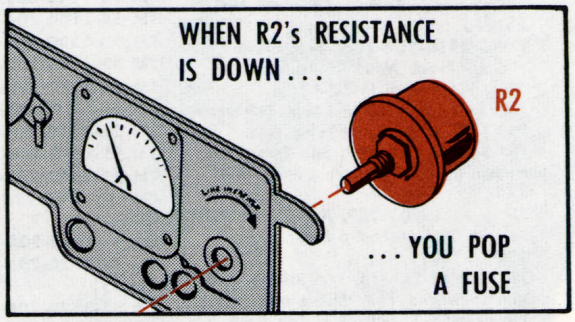
AR 95-16, Oct A/C WT. & BAL.
DA Cir 65-1, Sep ZIP-APO Codes.
DA Pam 310-2, C2, Oct Index-Forms.
DA Pam 310-3, C3, Sep Pub Index.
DA Pam 385-1, Oct Unit Safety Management.
SM 55-4-5180-A09, Mar A/C Tech Insp Kit.
TB AVN 25-15, Mar Fuel Boost Pumps (60 Reprint).
TB SIG 225, Apr 62, Identification and Handling of Radioactive Signal Items (Reprint).

FATHER TIME GOT YOUR TT-4?

Along about the time that old age or long use creeps up on your TT-4/TG teletypewriter, your R2 resistor in the line increase circuit kinda loses its urge to resist.

A good indication that the variable resistor's gettin' a little feeble is when you start poppin' fuses when you work the LINE INCREASE switch from its counterclockwise point to, or near, the full clockwise point. Like you know, going toward full clockwise feeds more current into the circuit.





If the resistor is shorted, or if old age or continual use has weakened it, you get more current than you want. So, you pop a fuse because the R2's resistance is down.

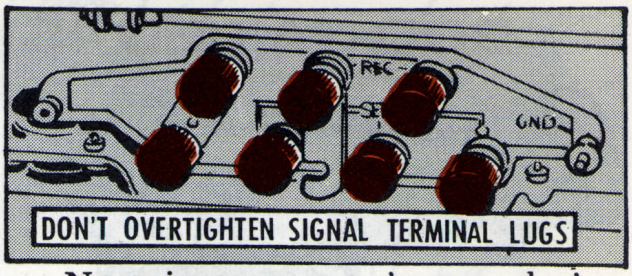
That kinda' fuse poppin' shouldn't be confused with the kind you get when you make a fast swing of the switch from counterclockwise to full clockwise. In normal operation, do like TM 11-5815-206-12 tells you and you'll save a lotta fuses. Like, you come up from counterclockwise sl-o-o-o-w-ly till you get the milliampere reading you want (depends on how many noncontrol stations on your circuit). You should never have to swing to full clockwise.

Noncontrol stations, naturally, have to work back from the full clockwise position.

The point being that if you're operating your TT-4 accordin' to the book and you still pop fuses when you swing the LINE INCREASE switch, have your teletypewriter mechanic or support check out that variable resistor with an ohmmeter to make sure it's doin' its job.

Now, take a look around the corner at the line terminal board.

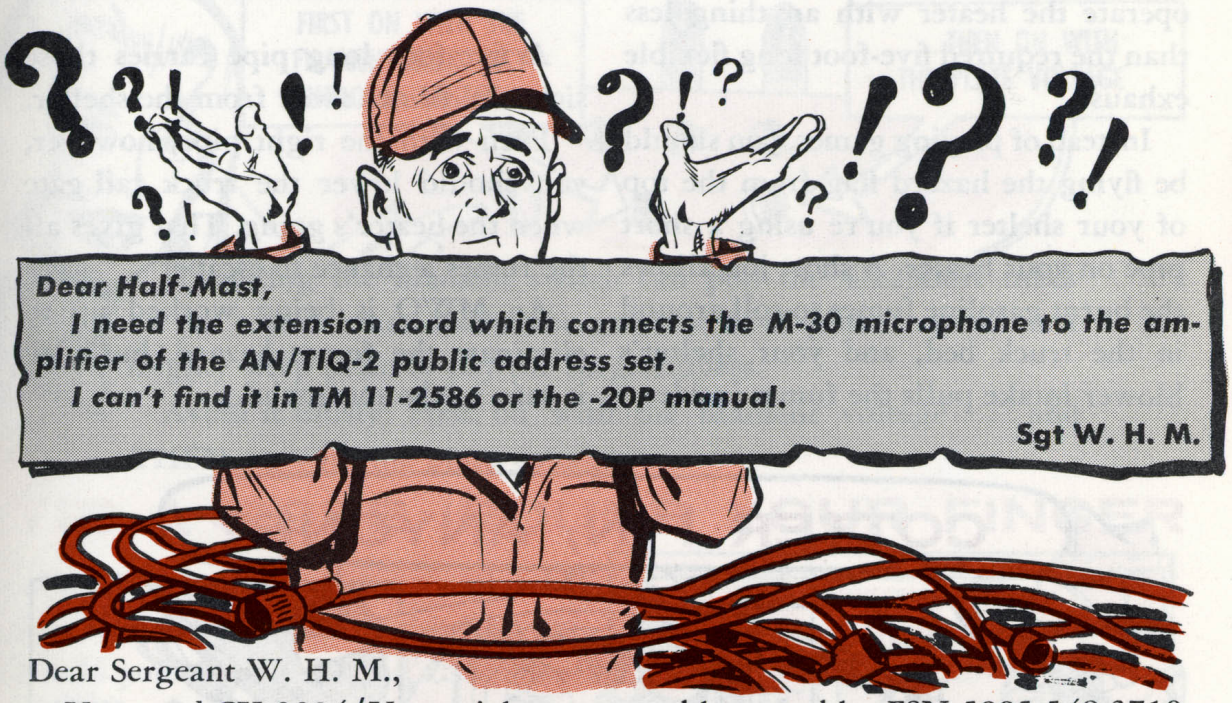
See those bakelite signal terminal lugs?



Next time you snug 'em up, don't overtighten 'em. They crack. In other words, if you had to really put the torque to 'em, they'd be made out of sturdier material.

Don't treat 'em like they were made of solid metal. They don't have to do that kind of tightening job.

NEEDED: ONE CABLE



Dear Half-Mast,

I need the extension cord which connects the M-30 microphone to the amplifier of the AN/TIQ-2 public address set.

I can't find it in TM 11-2586 or the -20P manual.

Sgt W. H. M.

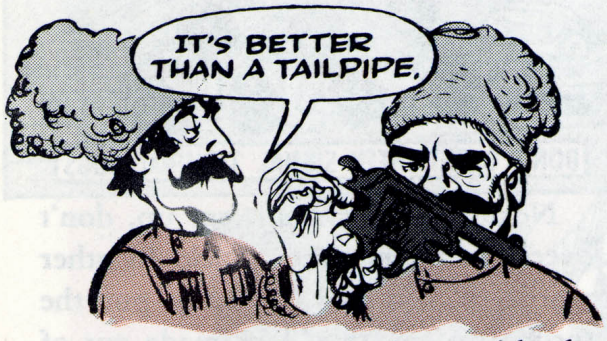
Dear Sergeant W. H. M.,

You need CX-3094/U, special purpose cable assembly, FSN 5995-548-3710, which is in TM 11-5830-206-10P (Feb 59). The cable is also used with the M-43 and M-45 mikes. It's not a maintenance item, but your support can make it for you from the cable connectors and so forth listed under cable assembly group, pages 7 and 8, TM 11-5830-206-35P.

Since the public address set is a hodge-podge of components, it'd also be helpful to keep on hand a copy of Change 3 (Jan 64) to TM 11-5830-206-20P. It lists parts manuals you need for the components. The change lists eight (ouch!) (8) manuals you need for parts and PM.

Half-Mast

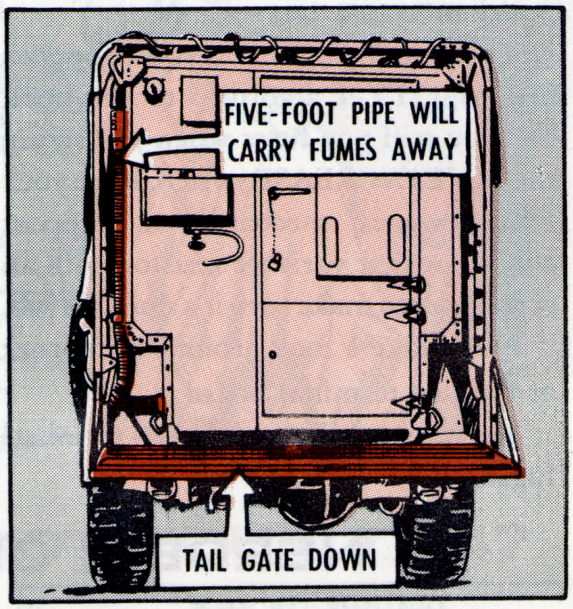
BOB-TAILED IS NO WAY TO GO



Playing Russian roulette with the heater exhaust pipe of your AN/GRC-46 radio teletypewriter set is a sure way to get at least an upset gut.

It stands that a Joe has to be lucky if that's all he gets from a bob-tailed pipe. It also stands that it's foolish to operate the heater with anything less than the required five-foot long flexible exhaust.

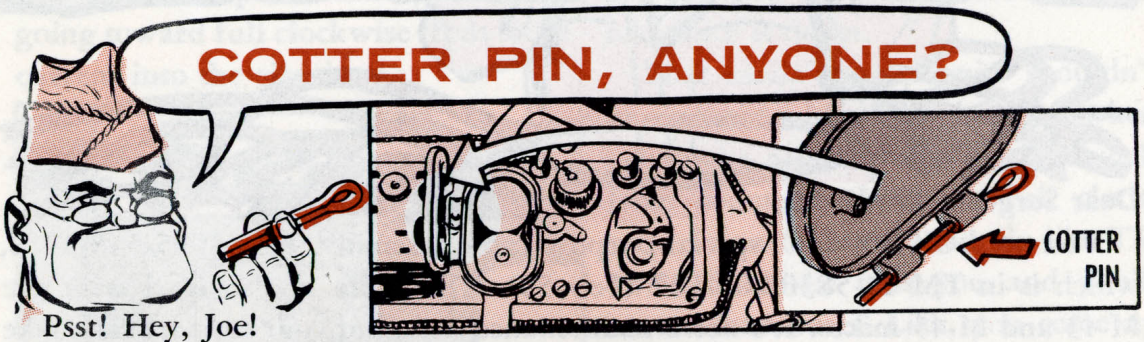
Instead of playing games, you should be flying the hazard flag from the top of your shelter if you're using a short pipe on your heater. A short job allows the burnt gasoline fumes to roll around in the truck bed, and your shelter's blower intake pulls the fumes inside.



A five-foot long pipe carries those sickenin' fumes away from the shelter.

Even with the right pipe, however, you should lower the truck tail gate when the heater's going. That gives all the fumes a chance to escape.

An MWO is being worked up to eliminate the fumes hazard, but play it safe in the meanwhile.

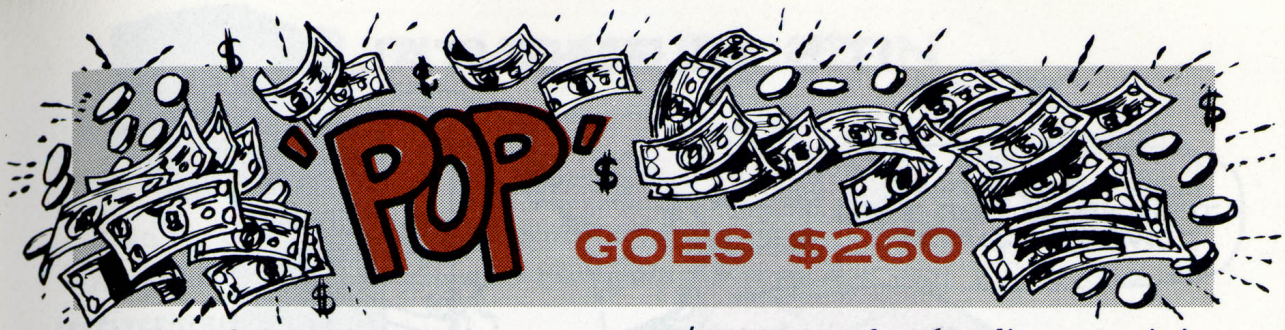


Psst! Hey, Joe!

Interested in a quick fix for the battery box of your TA-43/PT or TA-312/PT telephone?

Well, next time the cover retaining pin (FSN 5315-524-0243) wears out, or gets lost, and you need a fix soonest, get yourself a cotter pin about 3½ inches long and 5/64 inch thick . . . and slip it in.

Then, sit back and wait for your req form to go thru the mill.

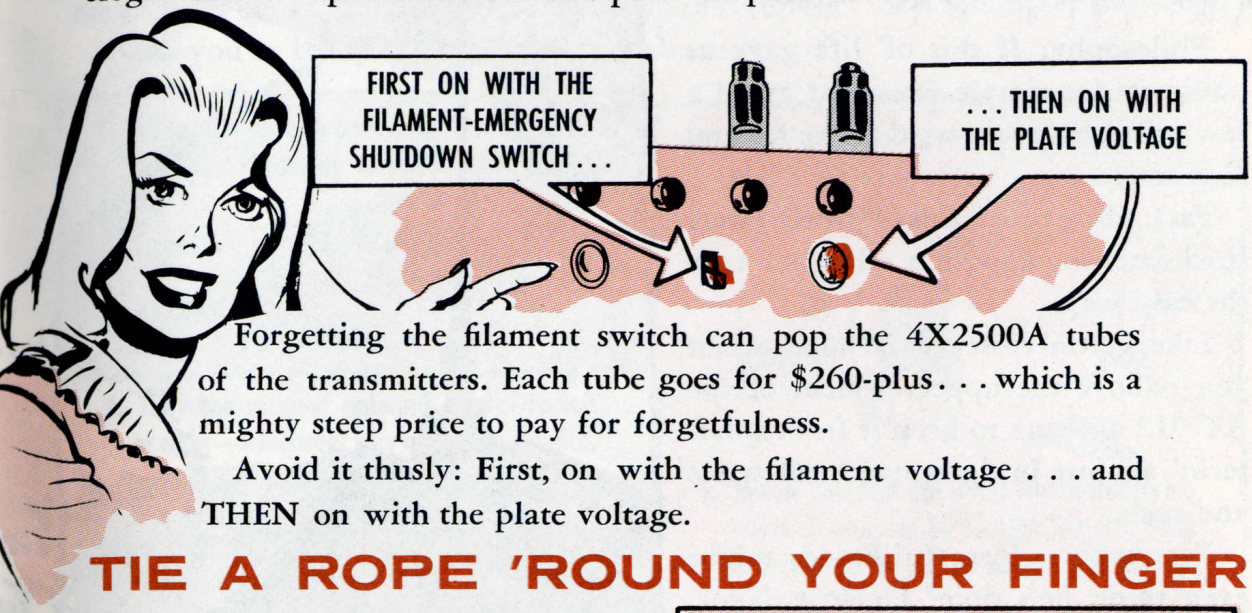


A flip of the plate switch on your AN/FRT-22 and -26 radio transmitting sets can cost you and/or Uncle at least $260 a throw.

Meaning: It gets costly when you apply plate voltage to the transmitting sets when they're not ready for it.

The right time is AFTER you flip on the Filament-Emergency Shutdown switches. The switches are in the upper control panels of the transmitters, and they turn on filament voltages. All are red, toggle jobs.

Since the Plate ON switch is a push-type it might be helpful to remember a slogan like: "Flip the filament and push the plate on."



Forgetting the filament switch can pop the 4X2500A tubes of the transmitters. Each tube goes for $260-plus. . . which is a mighty steep price to pay for forgetfulness.

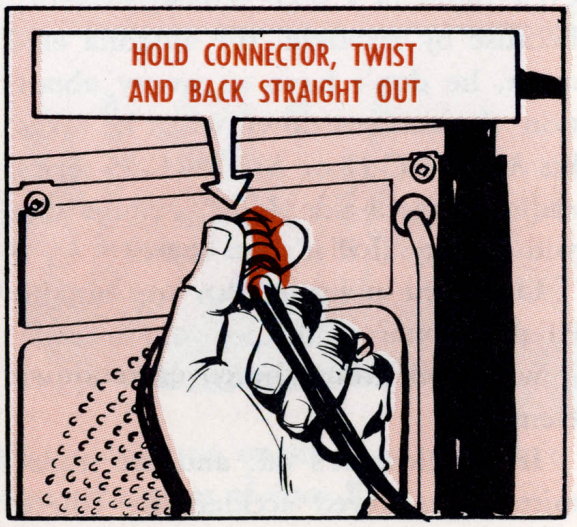
Avoid it thusly: First, on with the filament voltage . . . and THEN on with the plate voltage.

TIE A ROPE 'ROUND YOUR FINGER

Maybe it's not as pleasant a stimulation, but try to remember this like you would your best girlfriend's telephone number:

When you remove an RF (antenna) cable from a component of a radio set, hold it at the connector, twist, and back it off straight out.

Don't ever grab the cable itself and pull out. You may yank the wiring right out of the connector . . . or damage the jack.



IT'S ELEMENTAL

Philosophy: If this ol' life gave us bouquets for simple fixes that avoid a few minutes' labor, we'd all be fat and fortunate.

Fact: More often, this ol' world offers brick-bats for bouquets when we take the easy way.

Like, gettin' closer to the point, when you remove the upper element of the AT-912 antenna to keep it from splatterin' against bridges, overhead wires and such.

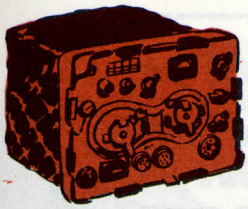
Fact is, some forgetful Freddy might even think he's doin' Uncle a favor, because by removin' the antenna element, he don't have to worry about tyin' the antenna down when he takes his AN/VRC-12 or AN/PRC-25 series radio set for a ride. Like . . . how can you damage it if it's not there?

On to the point: When you hit the road with your load, keep your antenna intact—and don't remove that upper element!

If the element's off, and the transmitter gets keyed accidentally (there are ways; count 'em) in the high power position, the transmitter antenna circuit gets the "H" knocked out of it.

So keep the antenna together, and tie it down when you're in transit.

It's elemental.



TUNE-IN CLUE-IN

Two for one. That's a good return most any time.

And that's what you get with this tuning process for your RT-66 thru -68 receiver-transmitter.

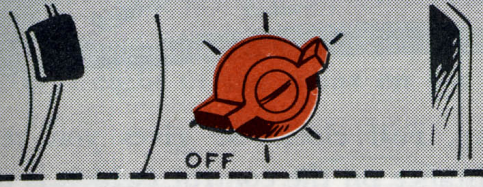
The procedure will either perfectly tune your receiver antenna—or clue you that the tubes in the RT might be bad.

What you do first is adjust your squelch so it's about ready to open. Tune the receiver antenna as per TM procedure until the squelch opens. About this time the squelch should shut off when you adjust it to either side.

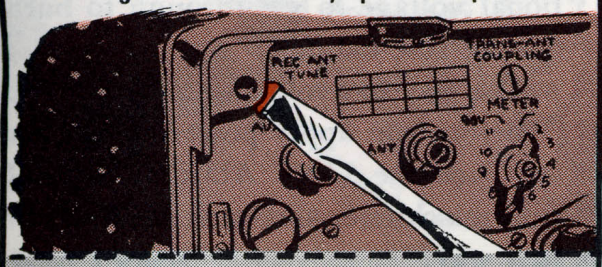
One reminder before going for the perfect tune or a tube hunt: The frequency for the tuning process should be the normal net frequency. Or, if you're to use the receiver on many different frequencies, the tuning should be done about two megacycles below the top frequency of your receiver.

Now you're ready for the following steps:

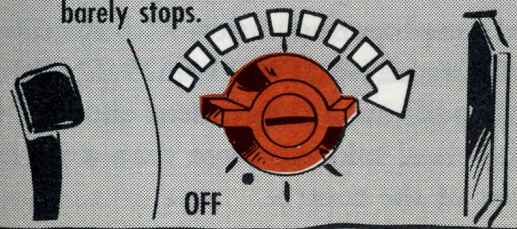
1. Adjust the squelch until a faint frying noise tells you it's ready to open.



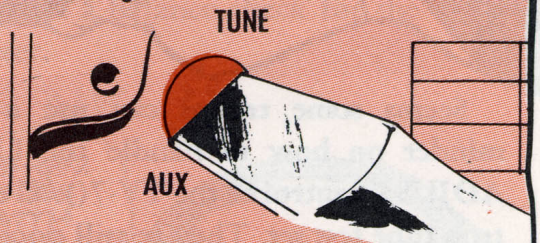
2. Tune the receiver antenna control to left or right—whichever way opens the squelch.



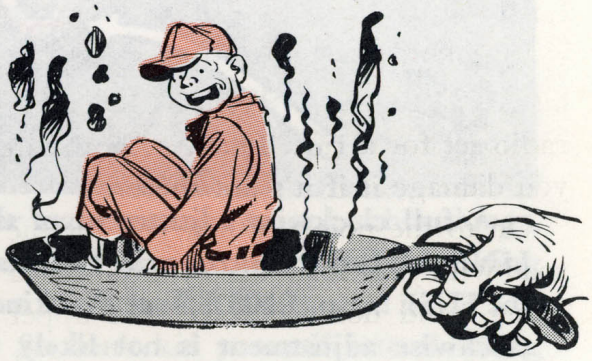
3. Advance the squelch until the frying noise barely stops.



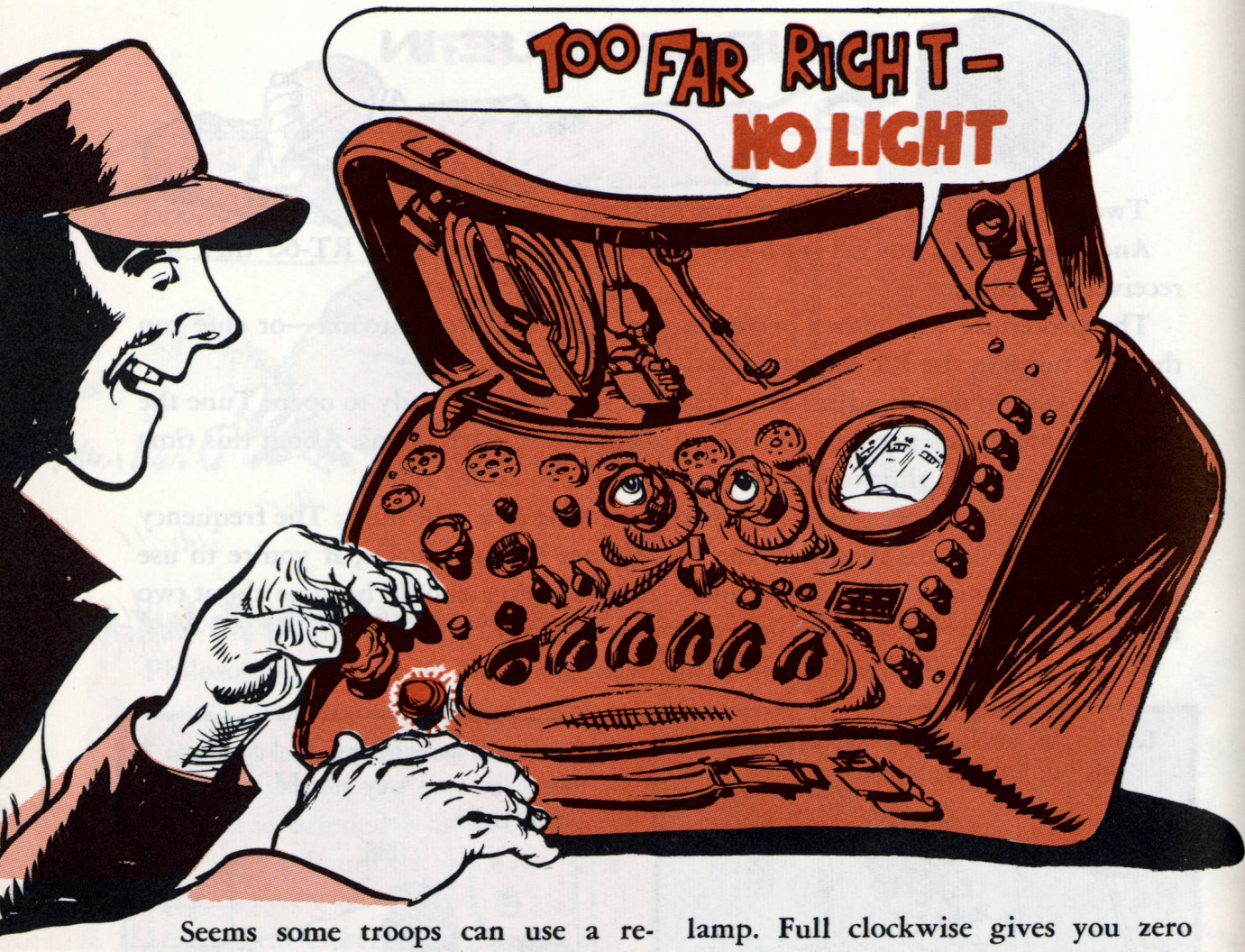
4. Reach up to the antenna control again and turn it the same way you did in Step 2 (left or right).



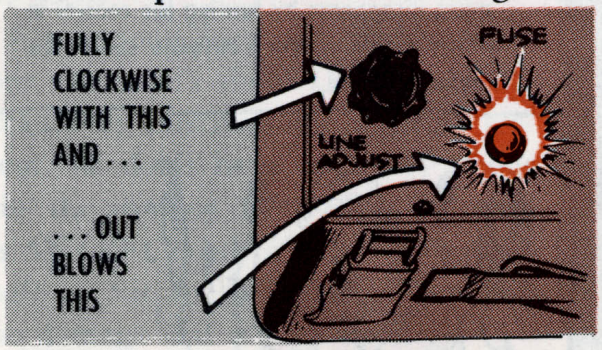
5. When you find the point where the frying noise disappears by turning the control in either direction, your antenna should be perfectly tuned.



On the other hand, if the squelch keeps snapping on or off—and you can't produce the frying noise—it's time to inspect the tubes of your RT.



Seems some troops can use a reminder on how to handle the LINE ADJUST control of the TV-7()/U electron tube test set. They're still popping FUSE lamps with too much voltage.



A full clockwise adjustment of the LINE ADJUST control will burn out the FUSE lamp (E103). Since that kinda clockwise adjustment is not likely to be necessary even under field conditions, there's no need to burn out the lamp. Full clockwise gives you zero resistance on the control (which is the R126 resistor) and allows enough additional voltage to get through to burn out the fuse lamp.

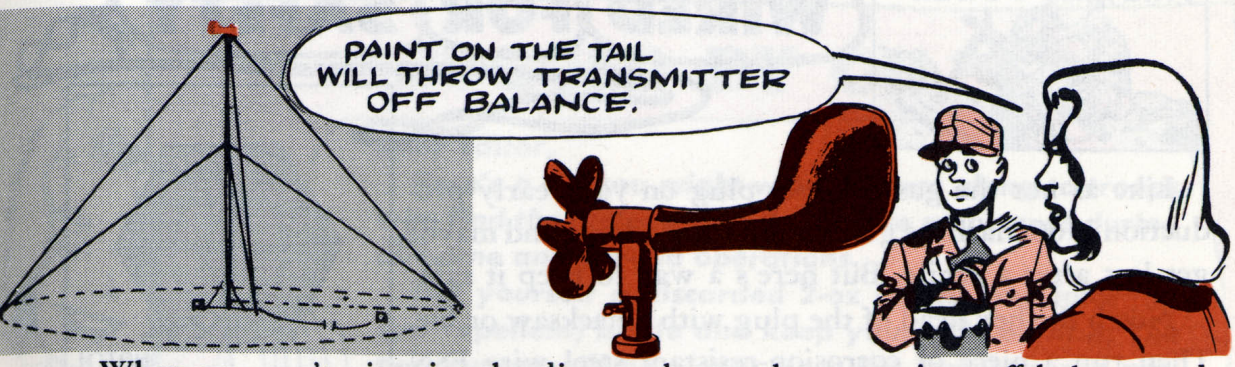
The way to avoid that mess is easy.

Before you apply power to the test set, turn the LINE ADJUST control fully clockwise, and back it off about half way.

Then, with power on, adjust the control for proper operation with the tube to be tested (see TM 11-6625-274-12). This additional adjustment should be minor and take no more than a slight twist of the control.

In no case should you leave the control in the extreme clockwise or counterclockwise position.

TAIL TROUBLE TIP



When you can't pinpoint the direction they're coming from, all winds blow ill . . . and thereby hangs a tale. You might even say a tall tail tale, pointing out that eyewash is only skin deep, and the real meat of the matter lies below the surface.

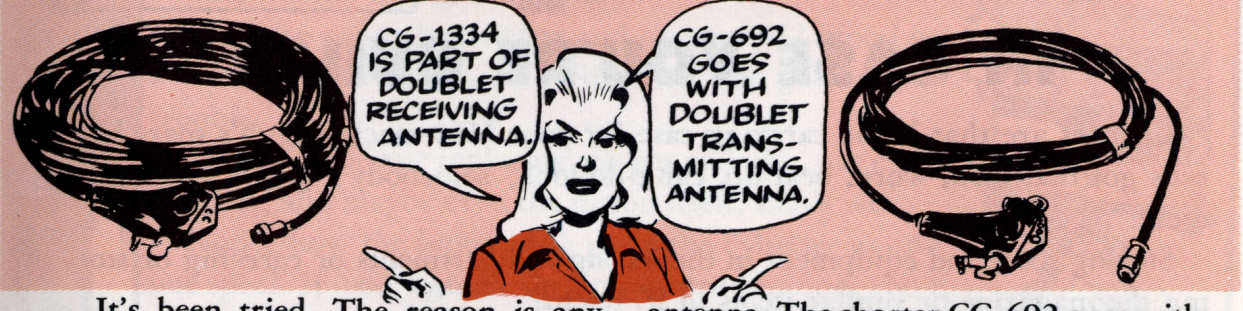
Or somethin' like that.

Anyway, please don't do any fancy paint jobs on the tail vane of the T-610/MMQ-1A wind speed transmitter of your wind measuring set. The extra weight of the paint on the tail throws the transmitter off balance and keeps it from pinpointing wind direction changes.

A real fancy cosmetic job on the tail could cause you to get an incorrect wind reading . . . and affect the accuracy of a missile.

So go mighty easy on the touch-up painting . . . and pay close attention to para 5 of TM 11-6660-203-20 (Apr 60) with Change 3. It gives you the dope on a balance check for the transmitter.

DON'T 'SHRINK' IT



It's been tried. The reason is anybody's guess.

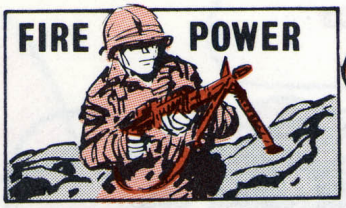
But it don't work.

Nope. You can't interchange the AN/GRC-26D's CG-1334/U, 500-foot RF cable with the 75-foot CG-692/U RF cable . . . and expect the radio set to put out for you.

Like you know, the cables are used with a doublet antenna. But—the CG-1334 is part of the doublet receiving antenna. The shorter CG-692 goes with the doublet transmitting antenna.

Natcherly, the cables differ in size to do different jobs. Natcherly, too, you can't use the 500-foot receiving cable for transmitting. Among other things, you lose power when you're putting out with the RF energy.

So don't kid yourself into thinking it should work either way. Use the right length—or get it if you don't have it.



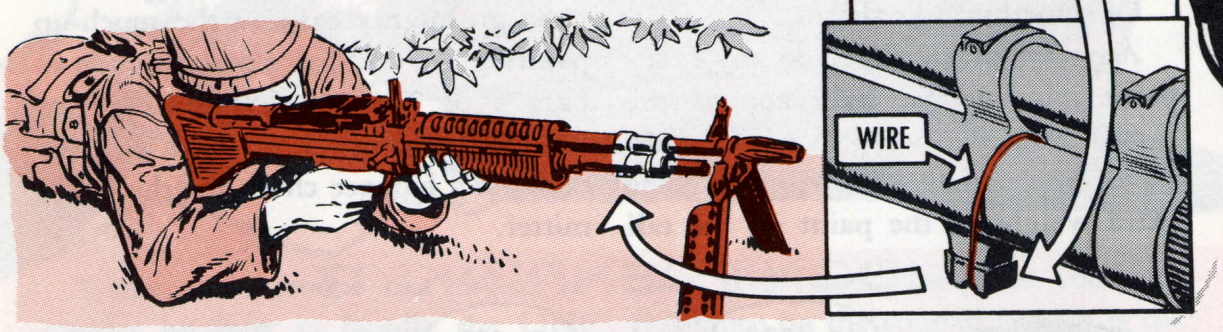
WIRED FOR SAFETY

Like as not the gas cylinder plug on your early production M60 machine gun's gonna work loose and maybe get lost after a while. But here's a way to keep it safe:

Notch the hex head of the plug with a hacksaw or file. Then run a piece of corrosion-resistant steel wire FSN 9505-596-5101 (MS 20995-C20), through the notch and wrap it once around the gas cylinder port. Twist the ends between the barrel and the cylinder.

This'll do it.

Current production models have a hole drilled through the gas cylinder plug for securing. No notch is required.

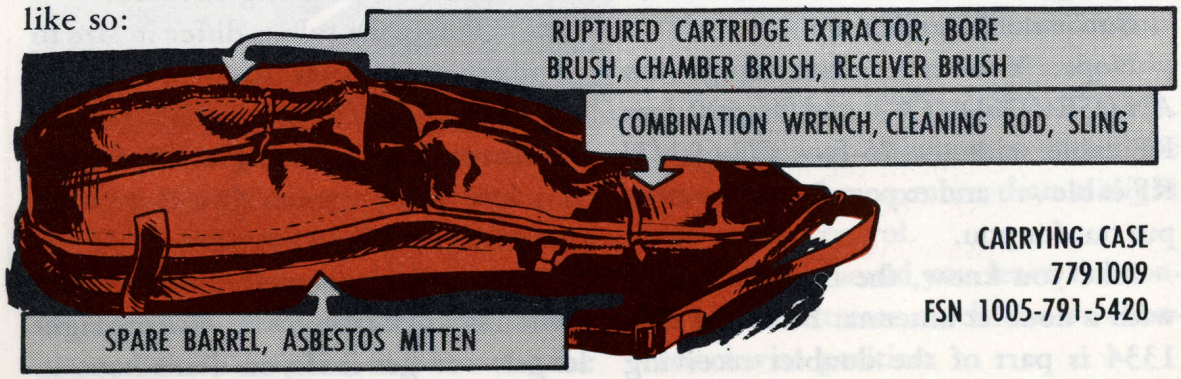


IN CASE YOU'RE GUILTY

Chances are that if the carrying case for your M60 machine gun's spare barrel's got that torn, worn, beat-up, can't-do-look, somebody's guilty of one of these:

Storing tools and equipment in the wrong compartments or carrying or storing the magazine or similar items in it. Right?

So, get right by putting only the right stuff where it belongs in your case, like so:



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7791009
FSN 1005-791-5420

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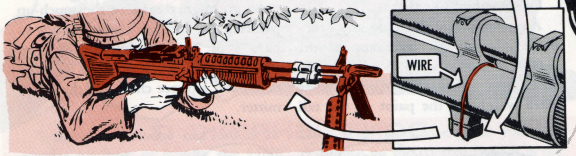

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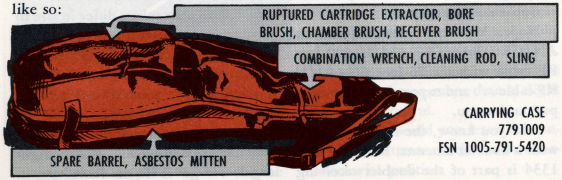

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BUGGED BY OIL?

Dear Editor,

Here's a tip you might want to pass along to troops who find the metal 4-oz rifle oil case a nuisance during airborne and ground operations.

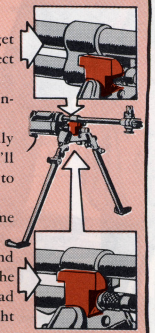
Get yourself a discarded 2-oz plastic bug juice (insect repellent) bottle and keep your rifle oil in it. The two ounces will be plenty since the screw-on cap prevents leakage and spillage.

I tried this out during Operation Great Shelf and it worked fine. Before departing the unit, I filled the 2-oz bottle from the quart can in the arms room. After normal cleaning and lubing every day for 15 days I still had about ¾ of a bottle left.

MSgt Charles J. duPont
Ft. Campbell, Kentucky

(Ed Note—Sounds real good.)

REAL NEAT, EH, BEATLE?



OK, Beatle, let's get with it, hey?

If you're gonna be careless and let your M2 bipod get a half-fast hold on your M14 like this, you gotta expect trouble.

You'll be forever replacing the gas cylinder, gas cylinder plug and maybe even the piston itself, that's wot.

Notice how the bipod yoke grips the cylinder at only one spot? If you tighten the bolt in this position, you'll dent the cylinder. Then, when you take out the plug to clean the gas cylinder parts, you'll strip the threads.

From there on, believe it, you'll have one heckuva time removing the piston from the cylinder.

So, play it cool, Cat. Take the extra half-second and seat it right in the first place, like so: See how firm the yoke sits? Now, when you tighten the bolt you spread the pressure evenly . . . the bipod grips good and tight . . . and the gas cylinder won't hurt a-tall.

OK, Beatle?

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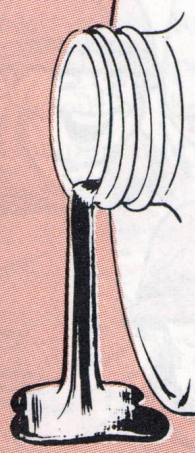

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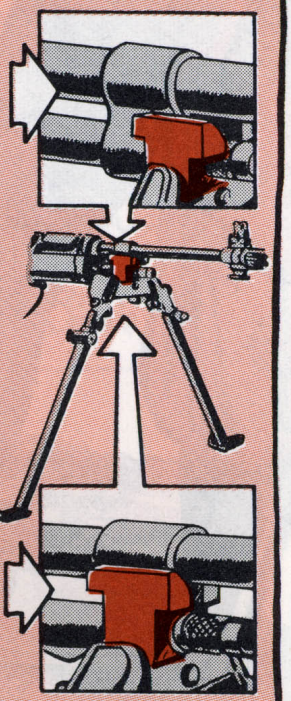

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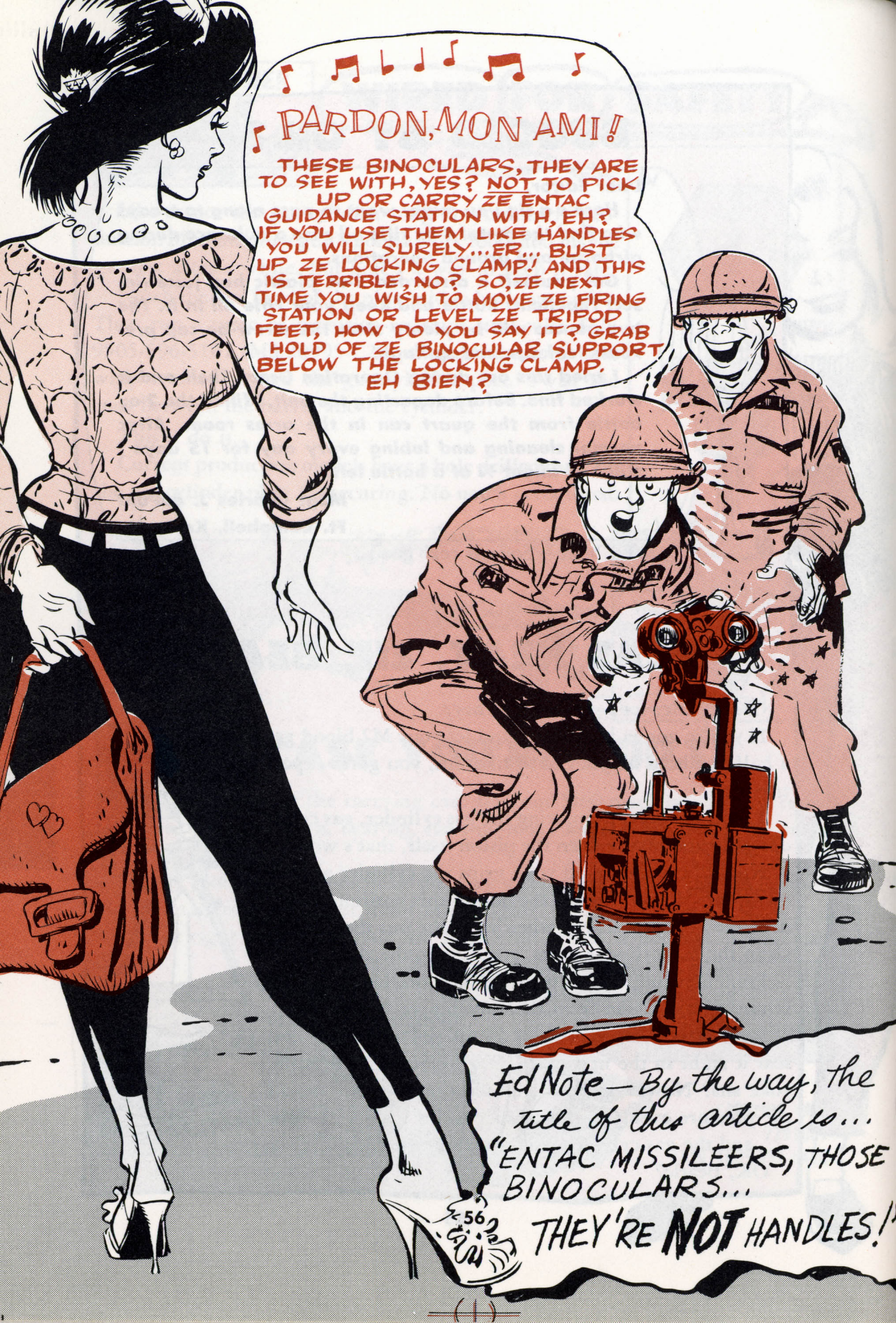
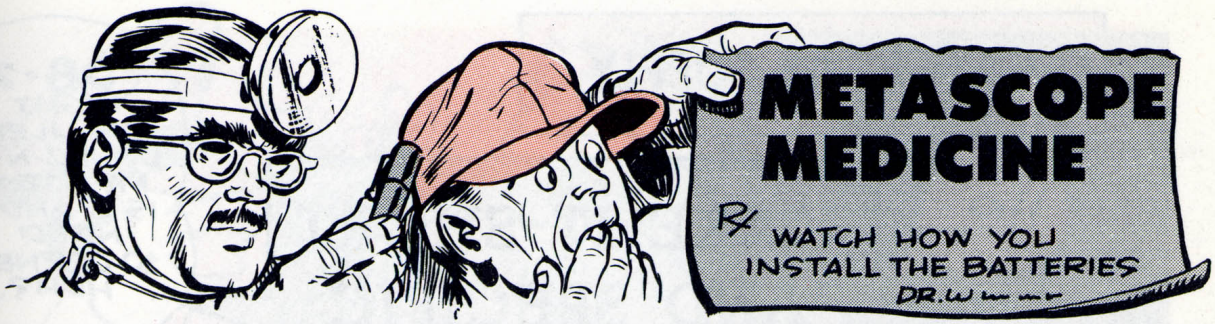

PARDON, MON AMI!
THESE BINOCULARS, THEY ARE TO SEE WITH, YES? NOT TO PICK UP OR CARRY ZE ENTAC GUIDANCE STATION WITH, EH? IF YOU USE THEM LIKE HANDLES YOU WILL SURELY... ER... BUST UP ZE LOCKING CLAMP! AND THIS IS TERRIBLE, NO? SO, ZE NEXT TIME YOU WISH TO MOVE ZE FIRING STATION OR LEVEL ZE TRIPOD FEET, HOW DO YOU SAY IT? GRAB HOLD OF ZE BINOCULAR SUPPORT BELOW THE LOCKING CLAMP. EH BIEN?
Ed Note — By the way, the title of this article is... "ENTAC MISSILEERS, THOSE BINOCULARS... THEY'RE NOT HANDLES!"
56



Prescription for keeping your infrared Metascope Assembly, Model 9902A, out of the hospital:

"One ounce of care when installing batteries, mixed well with skillful hand movement."

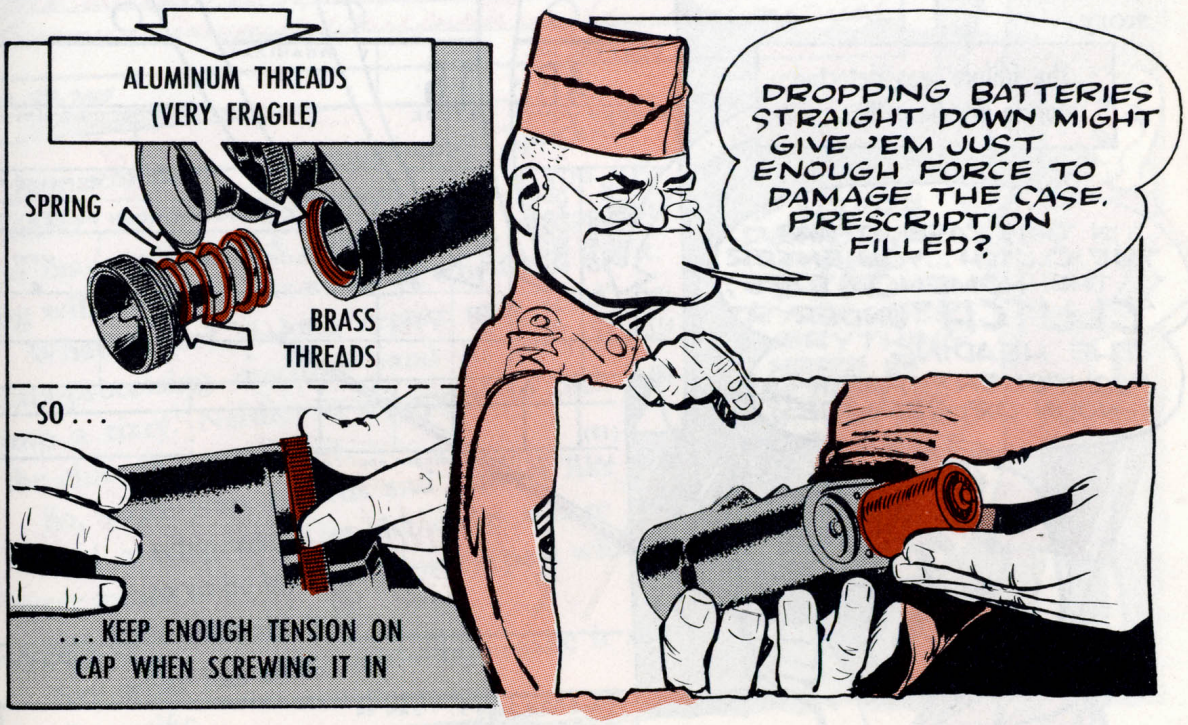
Preventive medicine or preventive maintenance, it doesn't matter how you boil it down. An ounce of PM is worth a pound of cure any ol' day of the week.

Like with the metascope's BA-1312 mercury battery. The receiver battery housing is light aluminum. The switch assembly, which caps the housing, has brass threads. Plus a spring to keep the battery in snug.

Which means when you're installing the battery, you should keep enough pressure on the spring so that the switch assembly turns in freely. If the spring tension mashes the brass threads of the switch assembly against the aluminum threads of the housing, it could mean goodbye aluminum threads.

Installing the BA-30 dry cell batteries calls for a different kind of PM. The light source case they go into is made of bakelite—which cracks when you give it so much as a cross-eyed squint.

So when you put in the BA-30's, slide 'em in easy while holding the case at an angle.



MAKE IT SHORT AND SPECIFIC

D8-2 NIGHT FRAULEIN? UN-4-2-N-8-LY MY STEADY IS 6 AND I NEED 10 DERNESS-HUH?

Hold down the wordage.

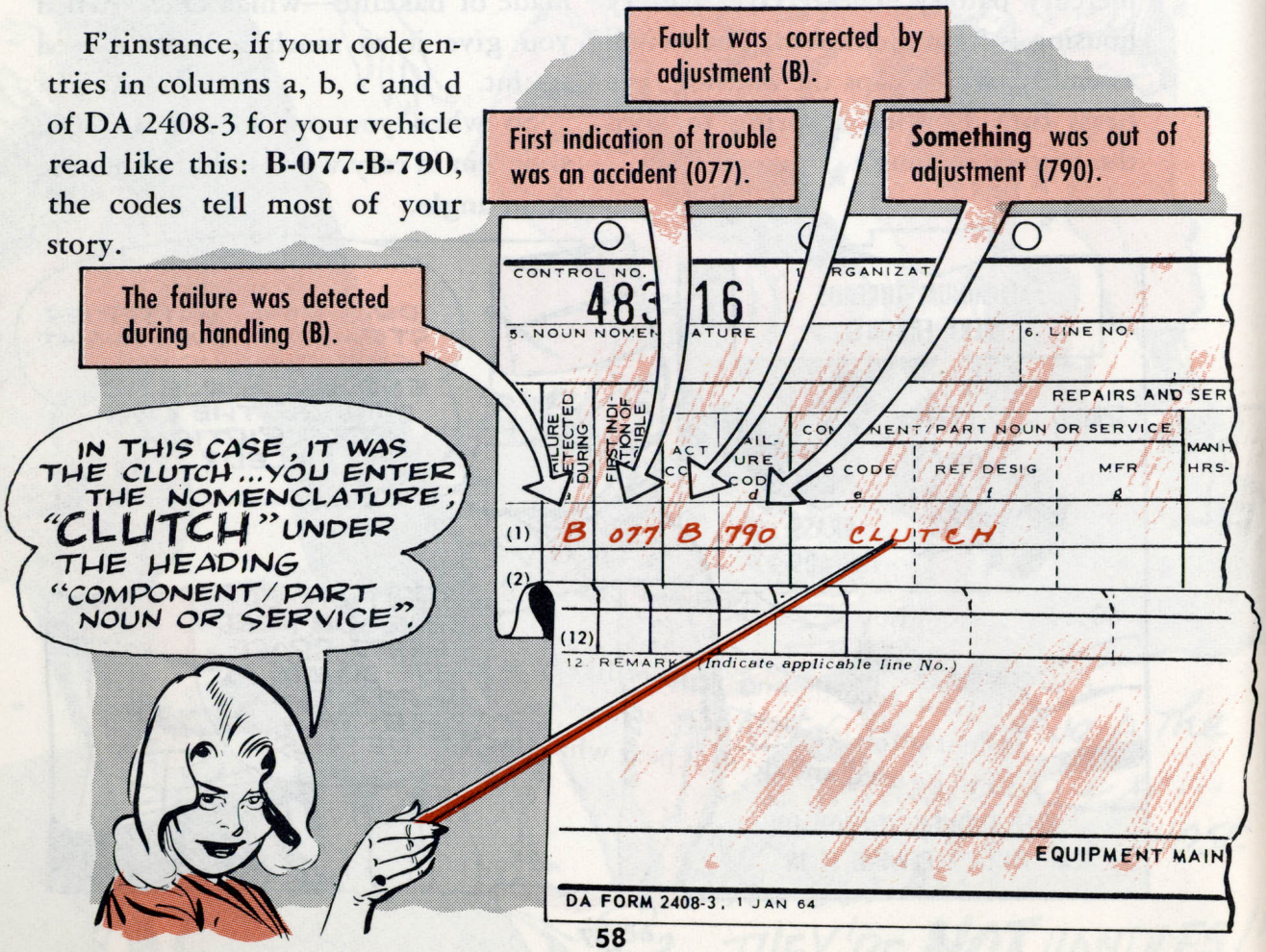
Let the code numbers and letters speak for themselves.

When you complete a maintenance service and enter it on DA Form 2408-3, let the codes carry their full share of your message.

Put in columns e, f and g only what the heading calls for. That's "component/part noun or service" for most equipment and CB code, reference designator and manufacturer for equipment where these apply.

In short, when you're writing the nomenclature or service, keep it short. Keep it on one line if possible.

F'rinstance, if your code entries in columns a, b, c and d of DA 2408-3 for your vehicle read like this: **B-077-B-790**, the codes tell most of your story.



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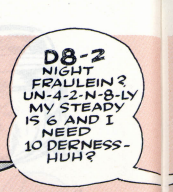

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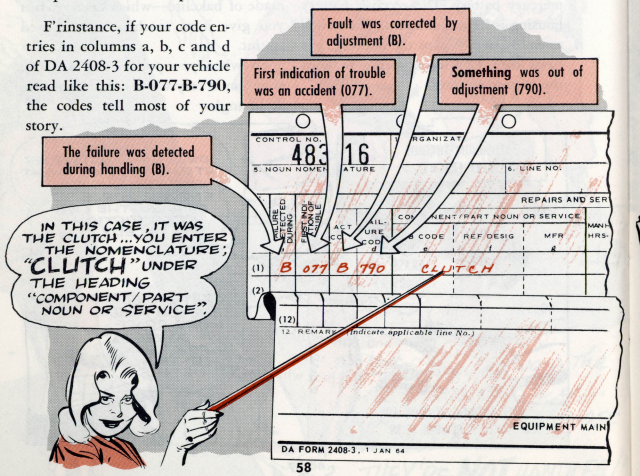
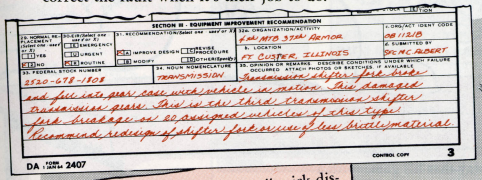


Nuff said, so why double up on the wordage?

And the same thing goes, as a rule, when you're filling out block 16 of DA Form 2407—or when your support's filling out block 20.

Even when some remarks are needed in block 12 of DA Form 2408-3 or when some explanation or description is needed in block 16 of DA 2407, make the message short and specific. When you're working over a hot block 16 on DA 2407, just tell support which component or part is on the blink with a few words on what seems to be wrong. Leave it up to support to figure out how to correct the fault when it's their job to do.


SECTION III - EQUIPMENT IMPROVEMENT RECOMMENDATION

DA FORM 2407

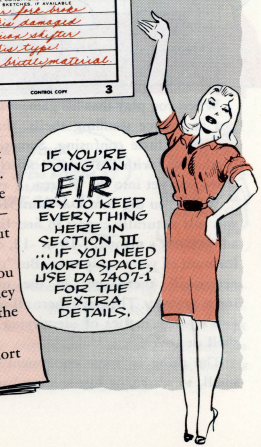
CONTROL COPY 3

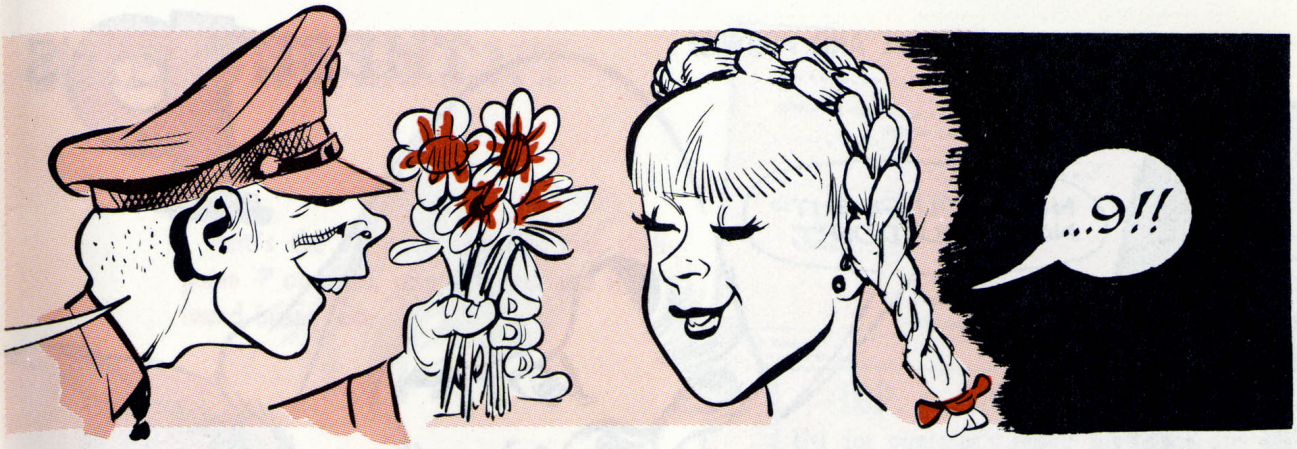
Just remember those multi-copy "quick-disconnect" forms are expensive. And if you use too many of the DA 2408-3, your equipment log will soon feel like an anvil when you lift it.

What's more, a long report may send the data-processing machine—and its operator—into a tizzy. Neither is equipped to pick out the clues in a whodunit.

So, write your records and reports like you would a telegram. Use the codes where they were meant to be used and don't repeat what the codes have already said.

Say what has to be said—but make it short and specific.





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And the same thing goes, as a rule, when you're filling out block 16 of DA Form 2407—or when your support's filling out block 20.

Even when some remarks are needed in block 12 of DA Form 2408-3 or when some explanation or description is needed in block 16 of DA 2407, make the message short and specific. When you're working over a hot block 16 on DA 2407, just tell support which component or part is on the blink with a few words on what seems to be wrong. Leave it up to support to figure out how to correct the fault when it's their job to do.

SECTION III - EQUIPMENT IMPROVEMENT RECOMMENDATION

29. NORMAL REPLACEMENT (Select one - use Y or X): [1] YES [X 2] NO

30. E/R (Select one - use Y or X): [E] EMERGENCY [U] URGENT [R] ROUTINE

31. RECOMMENDATION (Select one - use Y or X): [X A] IMPROVE DESIGN [C] REVISE PROCEDURE [B] MODIFY [D] OTHER (Specify)

32a. ORGANIZATION/ACTIVITY: 4th MTB 37th ARMOR

b. LOCATION: FT CUSTER, ILLINOIS

c. ORG/ACT IDENT CODE: 08112IB

d. SUBMITTED BY: SFC M.C. ALBERT

33. FEDERAL STOCK NUMBER: 2520-678-1508

34. NOUN NOMENCLATURE: TRANSMISSION

35. OPINION OR REMARKS. DESCRIBE CONDITIONS UNDER WHICH FAILURE OCCURRED. ATTACH PHOTOS OR SKETCHES, IF AVAILABLE

Transmission shifter fork broke and fell into gear case with vehicle in motion. This damaged transmission gears. This is the third transmission shifter fork breakage on 20 assigned vehicles of this type. Recommend redesign of shifter fork or use of less brittle material.

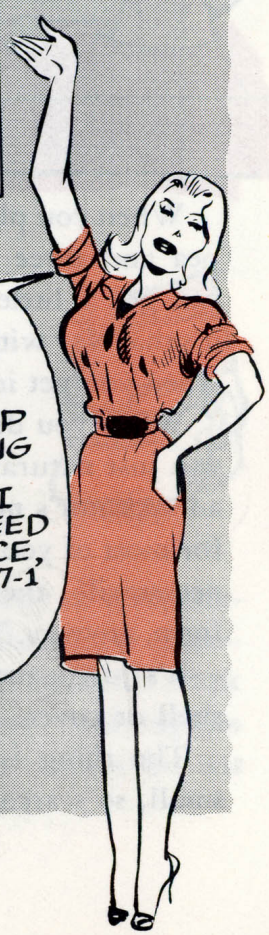
DA FORM 1 JAN 64 2407 — CONTROL COPY 3

Just remember those multi-copy "quick-disconnect" forms are expensive. And if you use too many of the DA 2408-3, your equipment log will soon feel like an anvil when you lift it.

What's more, a long report may send the data-processing machine—and its operator—into a tizzy. Neither is equipped to pick out the clues in a whodunit.

So, write your records and reports like you would a telegram. Use the codes where they were meant to be used and don't repeat what the codes have already said.

Say what has to be said—but make it short and specific.



TREAT 'EM EQUAL

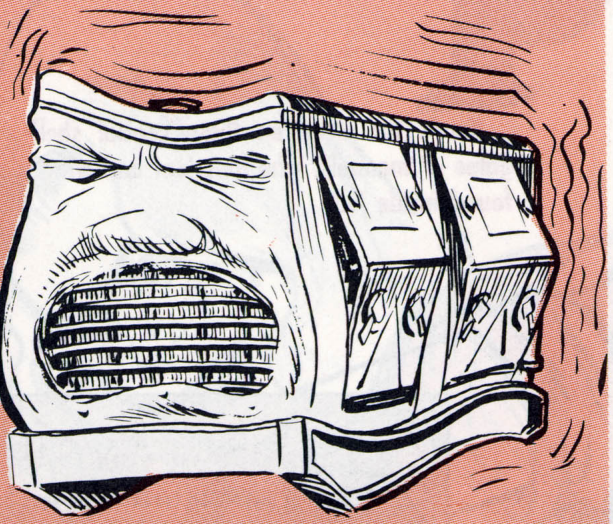
Sure, you've got muscles. But, don't overdo it when you're tightening the capscrews on the oil filter on your Cummins 45KW model JS-6-G generator.

Tightening the capscrews unevenly'll cause the filter head to crack—you'll lose oil, damage the engine.

So, when you replace the filter head, tighten the capscrews alternately . . . . and put the same pressure on each one.

No stress, no strain, no cracks.

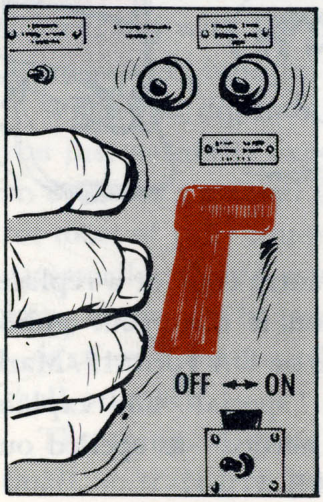
ROCK 'N ROTOR



Your Jeta Model MD151815-WA 15-KW generator set making with a wild wibble-wobble? Could be the rotor is out of balance.

Continual gyrations like this'll shake up the innards of the generator components and you'll be replacing them oftener than the Mets change pitchers.

Sure way to bring the rockin' and rollin' under control is to sound off to your support on a DA 2407, Maintenance Request. They'll pass your Jeta along to the depot rebuild shop who'll true it up.



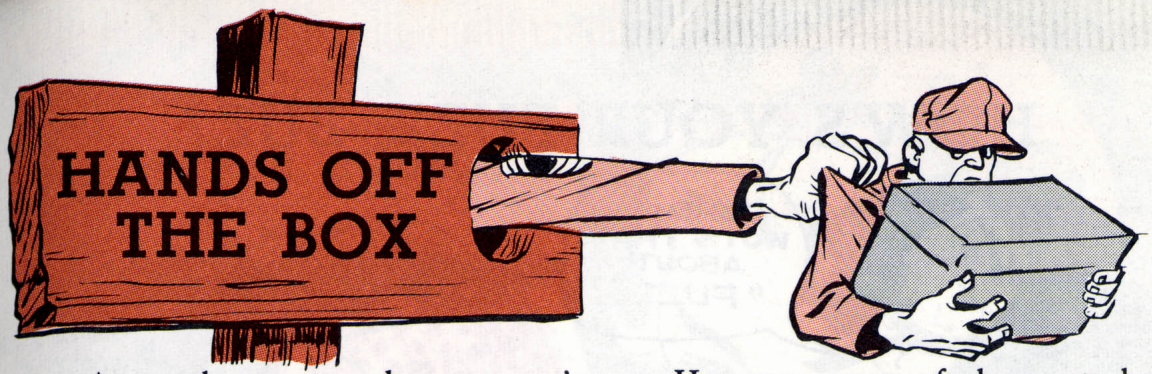
EASY OPEN, EASY CLOSE

Hold it, Mac.

Easy does it when you're opening or closing the circuit breaker on the control panel of your 150KW generator set for your D353 Caterpillar.

You don't need brute strength to turn the control switch, the breaker is motor-operated. Fact is, a light touch'll do the job. All the switch does is put the motor into operation . . . the motor does the rest.

If you strong-arm it, you could yank the switch handle right off its mountings.



As any observant guy knows—you've got to have the right parts in the right places.

This makes for a complete piece of equipment.

There's no reason for your Airesearch Model 70-2 gas turbine 30-KW generator to be an exception.

However, some of these sets have been turning up at depot rebuild shops without battery boxes.

Now, since these boxes come with the generator, they should stay with it. The set's not complete without 'em.

Just leave 'em on—it's that simple.

CUT THE SHORTS SHORT

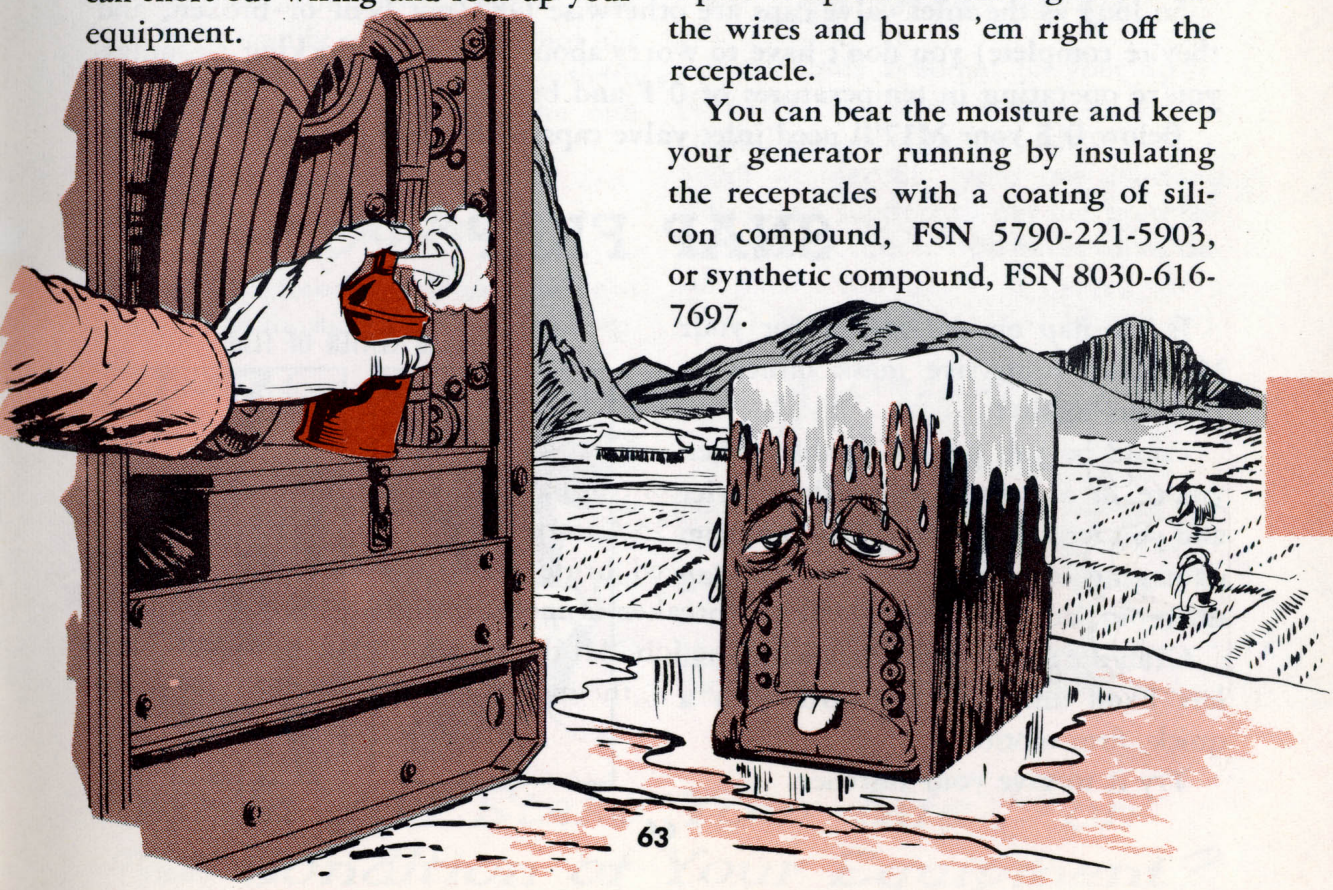
Moisture . . . dampness . . . dew . . . condensation . . .

Call it by any other name—it's still water. And, in the wrong places, it can short out wiring and foul up your equipment.

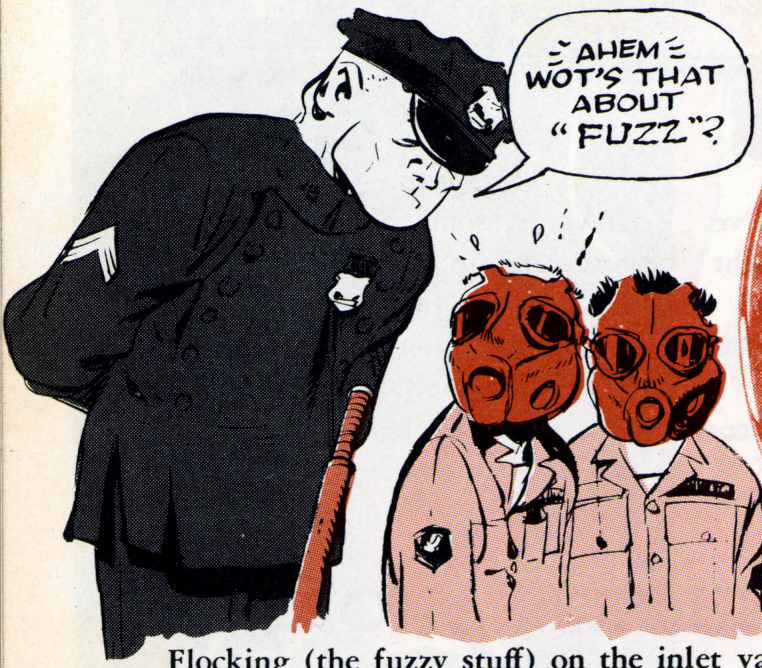
Your Stewart & Stevenson Model 52300 45-KW generator is a good f'rinstance.

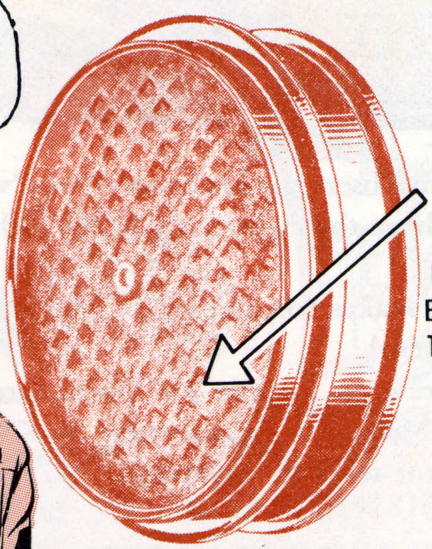
Moisture settling on the rear of the 4-pole receptacle of this rig shorts out the wires and burns 'em right off the receptacle.

You can beat the moisture and keep your generator running by insulating the receptacles with a coating of silicon compound, FSN 5790-221-5903, or synthetic compound, FSN 8030-616-7697.



HOW'S YOUR FUZZ, BUZ?





DON'T WORRY ABOUT WORN FLOCKING EXCEPT IN TEMPS OF 0°F AND BELOW.

Flocking (the fuzzy stuff) on the inlet valve caps on your M17 mask may wear thin after awhile, and the shiny screen underneath may show through in spots. That's 'cause the inlet valve caps rub against the inside of the mask's canvas carrier (as you jog along, or when you remove the mask or replace it in the carrier).

So long as the inlet valve caps are otherwise OK (not bent or broken, and they're complete) you don't have to worry about their worn flocking . . . unless you're operating in temperatures of 0°F and below.

Below 0°F your M17'll need inlet valve caps with a full growth of flocking.

SNAP FLAP

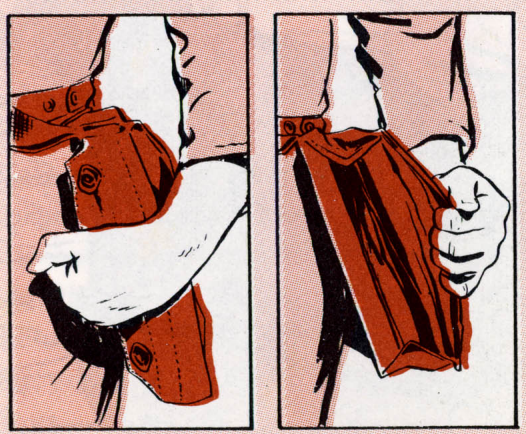
Is the flap on the carrier for your M17 field protective mask minus its fasteners **again?**

Could be you get too grabby when you're in a rush to open the carrier and you wrestle the flap. To keep from damaging the fasteners or yanking them out, do it this way:

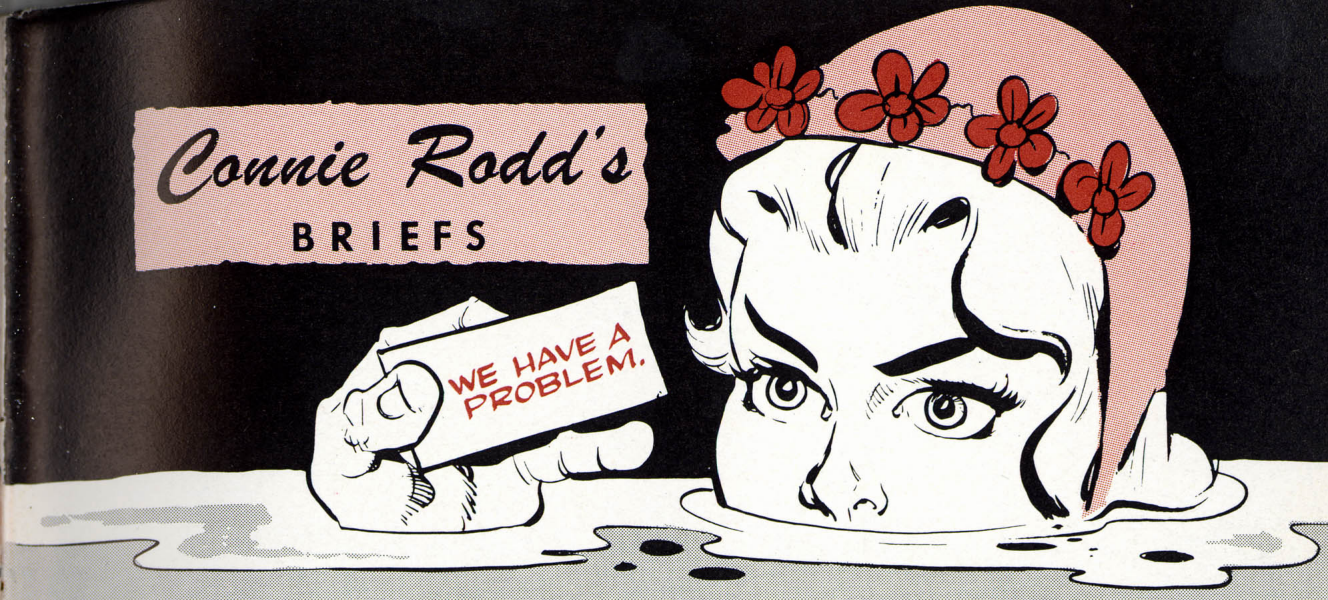
Grab the flap in the center with your left hand and pull outward with a quick, firm motion.

Try it to save your fastener.

GRAB CENTER OF FLAP



Connie Rodd's BRIEFS



Component DA 2408-5

When you get an equipment component MWO that wears the component group and class number instead of the end item number, this is your clue that you need a separate DA 2408-5 for the component in your equipment log. That is, **unless** the component already has a DA 2409. F'rinstance, an MWO 9-2805-XXX-XX on an engine calls for a separate DA 2408-5 for the engine. And when you modify a component that has its own DA 2408-5, the entry goes there —not on the DA 2408-5 for the end item it's installed on.

Radiac Calibration

Feelin' confused and ill-used when it comes to calibrating your radiac equipment?

Then, radiate yourself a copy of TB SIG-366 (2 Oct 64) and take a reading on what equipment has to be calibrated; who does it, and when. The TB fills you in on TM references you'll need and other goodies. As a teaser, it tells you all radiac sets and radiacmeters other than the IM-156/PD and IM-108/PD must be calibrated every 180 days.

FSN For Battery Box Paint

Need to paint the battery box on your vehicle with acid resistant paint? But you don't know what to order? Well . . . ask for Compound Coating, black, acid proof, asphalt base. FSN 8030-290-5141 brings you a one gallon can.

No More Icing

The engine breather on your Raven (OH-23D) has been known to get all choked up with ice these frosty days. Small wonder air types are checking with direct support to get the breather rerouted in order to stop this revoltin' development. The surgery is spelled out in MWO 55-1520-206-34/11 (2 Sep 64).

Get The Details

That's right! You Mohawk (OV-1) mechs who have had to requisition the whole engine oil filter in the past, in order to get a small part like an "O" ring packing, should eye the new TM 55-1510-204-20P (7 Aug 64). Now all the details are on page 2-309.

Would You Stake Your Life right now on the Condition of Your Equipment?

Really
LEAN
on it!
MOST FORMS IN THE ARMY EQUIPMENT RECORDS SYSTEM CALL FOR A SHARP, HARD PENCIL OR A BALL-POINT PEN. WRITE HARD, SO THE GUY WHO GETS THE CARBON GETS THE MESSAGE.